DOCUMENT RESUME

ED 055 037	08 SP 005 271
AUTHOR	Dietz, Thomas S.
TITLE	An Institute Program Designed To Train Vocational Education and Academic Teachers for the Development of Performance Objectives.
INSTITUTION	Willingboro Public School District, N.J.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-9-0538
PUB DATE	Feb 71
GRANT	OEG-0-9-400538(010)
NOTE	296p.
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	*Behavioral Objectives; *Individualized Instruction; *Inservice Teacher Education; Instructional Materials; *Self Evaluation; *Teacher Education

ABSTRACT

The institute, developed through a vocational grant, was designed to implement a program of orientation for teachers that would enable them to develop individualized instruction within their home district. The method involved an instructional learning package which enabled all the facets of self-motivation, self-direction, pacing, and self-evaluation to take place in an individualized manner in the classroom. The package could be validated through a specific task analysis on the part of the teacher. A strong foundation in the writing of behavioral objectives was the basis for the program and enabled participants to carry on an action program of implementation in their home district. The institute had five basic purposes: 1) to orient the participants in the use of behavioral objectives and the construction of student learning packages by utilizing the existing training program developed in Willingboro, 2) to provide individualization on the part of the participants whereby they would progress through 12 segments of instructional learning packets, 3) to provide a broad span of varied learning experiences so that the students could practice self-direction and selectivity, 4) to offer definite suggestions for initiating an action program for the implementation of individualized instruction in the home district, and 5) to conduct a followup survey through the use of an extensive questionnaire. (Author/MBM)

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FINAL REPORT
Project No. 9-0538
Grant No. OEG-0-9-400538 (010)

AN INSTITUTE PROGRAM DESIGNED TO TRAIN VOCATIONAL EDUCATION AND ACADEMIC TEACHERS FOR THE DEVELOPMENT OF PERFORMANCE OBJECTIVES

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February 1971

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

ACKNOWLEDGEMENT

This project was undertaken to answer a specific need that had developed in the ES'70 Network.

The basic writing of the program of instruction was done by a team headed by George Brandau, Principal, Willingboro Memorial Junior High School, Willingboro; and including Marcel Gilbert, Coordinator of Secondary Curriculum; Joseph Kaufman, Principal, A. Levitt Junior High School; and Joseph O'Donnell, Vice Principal, A. Levitt Junior High School.

The funding for the project was provided by the U. S. Office of Education and the Willingboro Public Schools. It should be here recorded that the participants and the staff gave unstintingly of their time as did the conference consultants.

The second part of the program was carried out as a follow up and owes its success primarily to Joseph O'Donnell of Willingboro, Dr. Edwin Brainard, Kettering Institute, Dr. Irvin Nikolai, South West Regional Laboratories, Doreen K. Rhode, and David Shore of the interdisciplinary writing team of the University High School, Philadelphia, Pennsylvania.

Thomas S. Dietz
Administrative Assistant
Research & Program Development

TABLE OF CONTENTS

PAGE

PART I SUMMARY I

Chapter

I. Introduction II
II. Methods and Procedures V
III. Conclusions and Recommendations X
IV. Evaluation XIII

APPENDIX A: Participant Recruitment
APPENDIX A-1: List of Participants
APPENDIX A-2: Brochure Recruitment
APPENDIX B: Schedule of Events
APPENDIX C-1: Participant Evaluation
APPENDIX C-2: Percent Responses for Questionnaire
APPENDIX D: Learning Packages
APPENDIX E-1: Program Format
APPENDIX E-2: Follow-up Survey Form
APPENDIX E-3: Analysis of Responses to Follow-up Survey
APPENDIX F Dr. Richard H. Bell's Speech

PART II SUMMARY 1

Chapter

I. Introduction 2
II. Methods and Procedures 4
III. Results and Conclusions 6
IV. Evaluation 7

Bibliography 8

APPENDIX 1-A: Participant Recruitment
APPENDIX 1-B: List of Participants - Sample Roles
APPENDIX 2: Agenda
APPENDIX 3: Letter of Introduction
APPENDIX 4: Glossary
APPENDIX 5: Paper entitled "Thoughts on the Responsive Curriculum
APPENDIX 6: Learning Packets 1 thru 14
APPENDIX 7: Participant Evaluation
APPENDIX 8: Analysis of Participant Evaluation

SUMMARY ON FINAL REPORTS I AND II 9

SUMMARY

The institute, developed through a vocational grant, was specifically designed to implement a program of orientation for teachers that would enable them to develop individualized instruction within their home district. The method of such implementation is in terms of a vehicle called an instructional learning package which would enable all the facets of self-motivation, self-direction, pacing, and self-evaluation to take place in an individualized manner in the classroom. This learning package based upon sound behaviorally stated objectives and related to meaningful and realistic concepts that could be validated through a specific task analysis on the part of the teacher.

A strong foundation in the writing of behavioral objectives and the knowledge necessary to construct a meaningful learning package would then place the participants in a position to carry on an action program of implementation in their home district. This was the basis for the development of this summer institute.

In providing for the training and the design of an action program for implementation in the home school district, the training institute falls into five basic areas for consideration:

1. Participants would be fully oriented in the use of behavioral objectives and the construction of student learning packages by utilizing the existing training program developed in Willingboro.

2. The summer program was specifically designed to provide individualization on the part of the participants whereby they would progress through twelve segments of instructional learning packets.

3. The instructional learning packages provide for a broad span of varied learning experiences so that the students can partake of self-direction and selectivity.

4. Definite suggestions would be offered to initiate an action program for the implementation of individualized instruction in the home district.

5. The institute would, finally, conduct a follow up study through the use of an extensive questionnaire.

CHAPTER I

INTRODUCTION

This grant came about as a result of communication between the schools of the ES'70 Network, where it became apparent that some type of training institute should be developed to provide basic orientation to the writing of behavioral objectives and the construction of learning packages, to implement an individualized instructional program, which was the basic tenet of the ES'70 Network.

The basic objectives of the institute were as follows:

1. Participants were exposed to the basic facets of an individualized program of instruction which included components of pacing, self-direction, self-motivation, self-evaluation, branching, enrichment, and multi-media approach. An action program for implementation of individualization was a basic goal of the institute.

2. Participants were schooled in the writing and development of valid behavioral objectives which included the structure of performance, conditions, and achievement level to fulfill the basic requirements of a sound objective. Not only were behavioral objectives developed, but they were further analyzed in terms of valid and realistic objectives for a meaningful curriculum.

3. The actual construction of instructional learning packages was developed with the participants engaging in the construction of learning packages of a disciplinary area of their choice which would be acceptable as instructional vehicles for student use. These packages were exchanged among the members of the institute. This was a learning experience only. The packages that were developed were part of the training program. They were exchanged for comments and advice. Obviously, they were not a finished product but only a step along the way.

4. Participants were offered a systematic program for implementation of individualiztion within their home districts. This included plans for inservice programs, schedule allocations, and the development of proper personnel and leadership to carry out the program.

5. The plans were rendered in outline form indicating that Boards of Education, Superintendents of Schools, Principals, and other administrators would have input before final formats could become reality. The products were again exchanged for comments and advice entirely as a learning exercise. No records were kept of this since they were only partially completed.

With these basic objectives in mind an institute staff and proper consultants were brought together for the development of a program for the summer institute.

In addition to the scheduled program dealing with behavioral objectives and instructional learning packages, the institute provided a number of additional features including group inter-acting discussion; computerized education; the child-oriented curriculum; various multimedia approaches to learning; educational television; and the interdisciplinary approach as presented by Dr. Tuckman and Mr. George Love. All of these additional features were received favorably and had a profound influence on the actual writing of objectives by the institute participants.

This basic instructional staff were all members who had played an integral part in the development of behavioral objectives and learning packages in the programmed approach for individualization being utilized at the junior high level in the Willingboro district. Each staff member accepted a responsibility for a particular facet of the program where they could show expertise in dealing with the participants and their progress.

In addition to this basic staff, a number of outstanding consultants were called upon to add to the general tempo of the institute.

1. Dr. Bruce Tuckman of Rutgers University made a presentation on the organic curriculum.

2. Mr. Kenneth Smith of the Nova Schools made a presentation on the Nova Tech-Science program.

3. Dr. Robert Worthington, Assistant Commissioner of Education in New Jersey discussed innovative trends in vocational education.

4. Mr. George Love of the Philadelphia District, reviewed the progress of the University High School based upon interdisciplinary objectives.

5. Mr. Richard Bell of Ampex Corporation gave a presentation on media in education.

In addition to this, the department chairmen of the Willingboro Memorial Junior High School worked closely on disciplinary areas with the participants, and the Learning Resource Center Director reviewed the role of the Learning Resource Center with an individualized approach.

The institute was held in the Willingboro Memorial Junior High School with forty (40) participants in attendance from July 21, 1969 to August 8, 1969.

The general program of the institute centered around two weeks of intense activities on the part of the participants in moving through a systematic program of twelve (12) learning packets based upon the various facets of individualized instruction and utilizing behavioral objectives and learning activity packages specifically designed as an inservice program. In addition to the daily schedule running from 9:00 in the morning until 3:30 in the afternoon, there were numerous other activities such as field trips to vocational installations, a wide variety of films and video-tapes, and the previously mentioned visitations of consultants and guest speakers in the field. The third and final week of the institute was devoted to team meetings on a district level.

ES'70 Coordinators and principals from the home district were invited to attend during this third week, and sit in to form an action program to be carried on in the home district at the termination of the institute. A few of the administrators did attend and from the results of the follow up study seriously worked at developing an inservice program for the implementation of individualization the following year.

A final summary of the institute indicates that it was three weeks of intense activity on the part of the participants and that generally speaking the planned schedule fulfilled the aspirations of the institute staff and participants.

CHAPTER II

METHODS AND PROCEDURES

The criteria for selection were indeed simple. With only two exceptions the participants were from ES'70 schools whose districts were committed to the concept of an individualized instructional methodology, relevant to the students, and based on systematic approach. All adhere to the learner responsive curriculum ideal.

The two "outsiders" were invited as a courtesy to neighboring districts.

The participants were selected by the administrators of their home districts and their ES'70 Coordinators. Each was in a position to try to institute change.

The participants were invited through the offices of the ES'70 Coordinator. (Appendix A and A-1)

The actual procedures affiliated with the summer teacher training institute at Willingboro centered around the successful orientation program that had been developed earlier in the Memorial Junior High School. This program was a series of twelve (12) segments dealing with the component parts of individualized instruction through behavioral objectives and learning packages. It provided an individualized approach in that the segments of the program were developed into learning packages for teacher use whereby individuals could move at their own rate, pacing themselves through this inservice program commensurate with their experience and ability levels.

This was exceptionally well adapted to the summer institute since the participants came at all levels of proficiency in terms of developing behavioral objectives and learning packages. Consequently, after the first day, there began to be a definite fan out in terms of the participants moving at different levels of the program according to their own past experiences.

The orientation program itself centered around the individualized procedures for each participant whereby through self-direction and individual pacing the participants could progress through the program at their own speed. This was essentially geared to present the same type of learning situation that would be developed for students in an individualized program featuring learning packages. Each segment contained the following materials in support of the learning package:

1. A written orientation
2. Audio cassette tapes
3. Overhead projector transparencies
4. Duplicated pre and post tests
5. Segments of Vimcet
6. Graphic materials and charts
7. Video tapes
8. Films and film strips
9. Plateau discussion groups
10. Staff institute conference

The daily schedule called for the beginning of activities at 9:00 a. m. with the total group participating in some formal presentation such as a film, a slide a guest lecturer, or a staff member presentation. The remainder of the morning was devoted to the individual pursuits of the participants with various short-term plateau discussion groups held in the seminar rooms. A plateau group discussion is another teaching device. As individuals proceeded in the acquisition of skills each came to a point where he needed further information, discussion, and/or an exchange of ideas when the instructor and their students concerning the work that had been done and the work to be done. Often several students were at approximately the same level and development. Instead of proceeding upwards the discussions levelled off into a plateau to form a firm base for their progress.

The afternoon sessions were devoted to field trips, plateau interaction, individualization, and a special problem session at 3:00 P.M. each day. Through the entire period of the institute the total scope of materials were available on shelves for participant selection with the hardware for multi-media use available in adjoining conference rooms.

The scope of the orientation program itself centered around twelve (12) basic segments. They are as follows:

1. Individualized instruction
2. The instructional package format
3. Behavioral objectives - structure
4. Behavioral objectives - recognition and development
5. Sample disciplinary objectives
6. Verbal and motor skills
7. Criteria test items
8. Taxonomy
9. Task analysis - structure
10. Task analysis - development
11. Terminal and interim objectives
12. The learning package - resources

This span of component parts in support of individualization, the use of behavioral objectives, and the construction of student learning packages, was most comprehensive in providing a meaningful and systematic approach to the mastery over the basic objectives of the institute.

During the individualized approach the four staff members plus consultants who were available at specified times, were free to move about the facilities assisting individuals or engaging in plateau group discussions. The close supervision was in essence, and the post-testing evaluation was expressly controlled by the institute staff members. The participants were not committed to go on to the next level until they had satisfactorily achieved mastery over the previous segment through the use of the written post-test. In the comments and responses found in Appendix C and E it is quite evident that the participants felt these learning experiences to be quite valid.

We would be remiss if we did not make mention of the three visitations. The first was a visit to the Instructo Corporation in Paoli, outside Philadelphia, where various media for education were produced. The second field trip was also to Philadelphia, to the installation of the computer-assisted instruction for the Philadelphia District, sponsored by the Philco-Ford Corporation. The third trip was to the local Burlington County Technical-Vocational School. Based upon the various technical industries, the school offered many innovations in the training of students for job-entry level skills.

In addition to the daily program the formal presentation and the inter-acting plateau group discussions, the participants had the opportunity to develop portions of their instructional packages on video tape in the television installation at the Memorial Junior High. In this sense the institute again was providing realistic opportunities for the participant members to carry on activities similar to those developed for a program in their home district.

The reader is again referred to Appendix B which outlines the full schedule of activities and the method by which the institute promulgated the objective. The intensity of the institute in terms of the contributions of the participants was very high.

During the course of the institute, several consultants made presentations to the participants. In keeping with the needs of the participants the remarks by each consultant were highly extemporaneous. We can present only a summation in this report.

Dr. Bruce Tuckman of the SCOPE Center at Rutgers University, New Brunswick, New Jersey, spoke on the Student-Centered Curriculum including his postulates and propositions as outlined in his report dated Spring 1969, Project #8-0334. Of primary interest to the participants were his remarks on the postulates as follows:

1. A curriculum must be defined in terms of its goals as they apply to students,

2. Occupational goals, are for a large majority of students, those requiring less than a bachelor's degree.

3. In terms of learning style, learning of the concrete must precede learning of the abstract,

4. Learning can be maximized by controlling the sequence in toward some goal and locating the student in that sequence.

Mr. Kenneth Smith of the Nova Schools made a presentation on the Nova Tech-Science program which was an effort to formulate learning packages and curriculum design in both the technical and science areas. Most of his remarks were concerned with the problem of writing interdisciplinary objectives in the areas and instituting change which was very radical for the school system.

Dr. Worthington, Assistant Commissioner of Education in New Jersey, covered a broad front of innovative trends in vocational education. His remarks were generally a summary of many of the innovations of which he is familiar.

Mr. George Love reviewed the progress of the University High School. Mr. Love and a team of writers have based the curriculum on the interdisciplinary objectives. The team first had to identify objectives and then take from the disciplines the skills needed to achieve these objectives. The University High School is not open and does not have students, but the writing team and some members of the administrative personnel are writing the curriculum and staffing the school in hopes of opening with the interdisciplinary approach.

Dr. Richard Bell of the Ampex Corporation presented a broad view of the use and misuse of media in education. He is convinced that whatever media is used that it is only as good as the preparation for use and the follow up as designed by teachers and students cooperatively.

Dr. Roger Tunks of Portland was unable to attend since his personal commitments lay in other areas due to the timing of the institute.

The institute was evaluated on a daily, informal basis by the staff and the contents of each daily evaluation was the subject of staff meetings which produced on-the-spot, day-to-day improvement.

The participants evaluated the summer institute immediately by answering fifteen questions as indicated in Appendix C-1. The results are tabulated in Appendix C-2.

Appendix E-1 shows the follow up survey which was completed by the participants and tabulated as indicated in E-3.

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

All participants completed a learning package as a requirement of the institute. The staff members were again more than satisfied with the broad format and large span of learning activities included in these packages. Many institute members supplemented their packages with actual video tapes developed in the Memorial TV studio, while others utilized audio-tapes, transparencies, and various visual applications as well as specific reading references from the Learning Resource areas.

An analysis of the outcome of the teacher training institute for individualized instruction would encompass a number of positive factors. The institute can be classified as an intense period of training covering three weeks which included a seven to eight hour day, and involved numerous hours in the evenings, varying with the individual enthusiasm of the participant. However, the following outcomes can be specifically stated in terms of the results of the institute:

1. Every participant actually wrote behavioral objectives and finally constructed an instructional learning package that was acceptable to the staff members. These packages were used as samples and returned by the principals in order that they might use them in the home district. The products were again an exercise in learning each one being a bit better and more to the point than the last. These exercises in the construction of learning packages were not intended for publication as the pages of a workbook are not intended for publication.

2. The institute brought about the exchange of some materials that were developed after the institute. This, however, is disappointing in terms of percentage of response.

3. It is quite obvious that school districts do not provide adequate programs of teacher training or inservice orientation. This will be more clearly pointed out in the responses found in Appendix E-3. The majority of participants who returned to their schools did not have their services utilized, nor were they called upon to spread the information acquired at the summer institute.

4. The program, as conducted, was viewed as very successful and this is substantiated by the follow up study and the remarks of the participants. However, again, the home districts generally failed to implement an orientation program that would further develop action in the home district.

It is very apparent that the participating schools continue to evidence an interest in individualized instruction, behavioral objectives, and learning packages. But they fail to implement an action program across the board for any number of reasons. The conclusions of the staff of the summer institute at Willingboro make the following suggestions:

1. Schools who are interested in implementing an individualized program must secure an educational leader for the development of a program who will have the time, energy, and resources to conduct a full inservice program with the teachers.

2. Suggestions for inservice training including revised scheduling techniques, additional free time, and the selection of personnel who are willing to meet the challenge, are all facets that are necessary for success.

3. The education of all levels concerned with a new program is imperative. This would include the administrators, the teachers, parents and the students who would be involved in an action program of individualized instruction.

4. The most important one for any participating district is simply to be "committed." For without the actual commitment we are merely reverting to the traditional study group, pilot program, or curricular committee that for so many years in education has provided little but boredom for the professionals involved.

The final analysis of the effectiveness of the summer institute on teacher training in the area of individualized instruction in vocational education gives strong support to the format used as a successful teacher training device to develop mastery in the writing of behavioral objectives and the construction of student learning packages. The general idea of utilizing an individualized approach through teacher training packets was quite rewarding. The broad span of activities and resources made available provided ample opportunity for a continuous learning program that was highly effective.

Briefly, some very specific conclusions can be listed for consideration:

1. All participants enjoyed success in attaining the original objectives.

2. The great majority of members returned to their home districts with great enthusiasm for future developments.

3. Individual contributions during the institute were evaluated very highly.

4. From follow up data, few districts utilized the services of the participants and they were left to die on the vine with their enthusiasm.

5. Vigorous leadership is needed in a district which desires change.

6. Administration must be committed.

7. Vigorous inservice programs are needed across the board.

8. The institute was most beneficial to those who started at point zero.

9. Future institutes should be carried on, but funded earlier.

10. Willingboro is conducting a district-wide inservice successfully through levels K-12.

CHAPTER IV

EVALUATION

The results of the teacher training institute can be divided into two basic categories: (1) the individual progress, and (2) the follow up activities.

The actual success of the institute in relation to the participants progress from his point of entry is well established from data presented in Appendix C. In this immediate evaluation at the completion of the three-week training program, the participants rated the overall program 85% effective and 10% moderately effective. The staff analysis of the general effectiveness of the program was also very high. Criteria for evaluation were:

- mastery in writing behavioral objectives
- mastery in constructing a learning package
- mastery of the concepts of individualized instruction

With three segments of the program devoted to the development of sound behavioral objectives, every participant had ample opportunity to develop knowledge and skill in this area. Appendix C tells us that the participants rated the staff members as 95% highly effective which was a prime factor in assisting in the mastery of the program segments. The institute staff prided itself in the progress shown in the writing of behavioral objectives, especially with members who began the institute at ground zero in this realm.

The total outcomes in terms of measured success of participant progress in the three areas discussed was more than satisfactory. The follow up study and participant evaluation substantiate this view.

The results of the follow up study were not as satisfying as the tempo of the actual institute. The follow up study was to accomplish four things:

1. provide data on implementation
2. open lines of communication
3. stimulate the sharing of materials
4. evaluate the institute techniques

The responses to the follow up questionnaire are presented by percentage in Appendix E-3. The reader is asked to draw conclusions on his own from this data. Basically, we are given the implication that the home districts fail to utilize the talents of the trainees to any extent after their return from the institute. The general response from the participants was also disappointing with only twenty-two out of forty members returning the questionnaire. Of the twenty-two responses, only four members included any information or sample material of their program.

The evaluation of the techniques of the institute indicated a high degree of success in most areas. Negative comments generally referred to the accommodations provided for housing and the field trips taken in the humid weather.

Here are some narrative comments added to the follow up questionnaire which reveal some of the basic problems of implementation:

> "Direction has thus far found focus on one school and certain departments within that high school, with efforts to involve total faculty interest in the possibilities of the use of behavioral objectives and the learning packages."
>
> "Future workshops must be utilized to map out or iron out difficulties in implementing an individualized program."
>
> "I rewrote some of the packets and included sample objectives at a low elementary level."
>
> "The largest obstacle is teacher readiness to convert from traditional methods where one feels secure to an individualized instruction process. Teachers have a tendency to revert to traditional methods if not fully committed to the individualized concept."
>
> "Would be interested in any advanced or follow up program if it develops."
>
> "Orient and train administrators as well as staff people ...have systems bring to a future workshop what they have developed and exchange ideas and information ..."

"Teachers are reluctant to change...they are not being encouraged by the building administrators."

"Lack of time for teacher-training and indoctrination... and lack of illustrative material to distribute to teachers and supervisors to convert them to Learning Packages."

"Most of the problems stem from untrained teachers in the use of packets and this lack of understanding causes teachers to avoid packets and behavioral objectives."

APPENDIX A

EDUCATIONAL SYSTEM FOR THE SEVENTIES
ES '70
A COOPERATIVE PROGRAM FOR EDUCATIONAL INNOVATION

WILLINGBORO
New Jersey

MEMORANDUM

TO: All ES'70 Coordinators

FROM: Thomas S. Dietz

RE: Performance Objectives Workshop
July 21, 1969 to August 8, 1969

DATE: June 12, 1969

The ES'70 Workshop for Curriculum Leaders to be held in Willingboro will be funded. Please select individuals from your school district for attendance and forward the names to this office for coordination.

On practical matters, the program will be in operation starting July 21st, hopefully, for three weeks. The first two weeks will be for the specific purpose of offering a program wherein the participants will learn to write performance objectives. This will include taxonomy, task analysis, learning packages, flexible scheduling, systems approach, and the like.

Dr. Bruce Tuckman of Rutgers University will be with us as well as Ken Smith, Robert Worthington and, possibly, Dr. Roger Tunks. The attached abstract is heavily loaded in favor of vocational education since that is the source of our monies. Please note and do include vocational education people.

No travel allowance is available. However, a stipend of $75.00 per participant per week with the $15.00 additional stipend for dependents is budgeted. However, there is a limit of $90.00 per week per participant. Motel accommodations are available at reasonable rates, and there should be little out-of-pocket expenses excepting for personal entertainment.

Please forward the names immediately so that we can begin constructing our mailing list.

TSD:bg

ABSTRACT:

Title: The Role of Individualized Instruction in Vocational Education: A Training Program Designed to Develop the Ability to Construct Individualized Instructional Packages for Student Use.

Project Administrator:	Thomas S. Dietz, Administrative Assistant
Contracting Agency:	Willingboro Township Board of Education Willingboro, New Jersey
Federal Funds Requested:	$20,000.00
Beginning and Ending Dates:	June 23, 1969 - December 31, 1969

Purpose:

The role of Vocational Education in providing realistic learning patterns which are relevant to life in an adult society is unquestioned. The concept of providing learning experiences for our students which allow for individual pacing, varied learning tracks, and ample opportunity for depth study and enrichment is a challenge that is yet to be fully met by the schools of the nation. The basic function of this proposed institute is to develop the latter in support of the former.

The key word is implementation. Education, like the weather, has everybody talking about it, but not many people doing much about it. In Willingboro, we have developed an orientation program that trains teachers to develop adequate instructional packages as an entire faculty in the various disciplines. We look upon the results as highly successful. We would like to share our results with other interested schools to help them implement individualized instruction.

The institute will focus upon vocational education as an area of development. The training, however, will be applicable to teachers of any discipline. Listed below are the major facets of the program relative to its purpose:

1. The participants will be exposed to individualized instruction as an approach to learning that includes self-directed learning activities, pacing, learning tracks, self-testing; multi-media, branching and enrichment.

2. The participants will learn to recognize and write objectives in behavioral terms suitable to their subject area and to utilize these objectives in learning packages with appropriate resources and learning activities.

3. The participants will engage in a curricular Task Analysis to determine relevant and realistic concepts that should make up their program.

4. The participants will formulate plans to innovate a program in their schools during the following year.

* This is a program for implementation - not a pilot study.

APPENDIX A-1

APPENDIX A-1

SUMMER INSTITUTE PARTICIPANTS

1. Mr. George Eckman, Cherry Hill, New Jersey
2. Mr. Lawrence Ayers, Portland, Oregon
3. Mr. Leslie H. Jones, Philadelphia, Pennsylvania
4. Mr. Joseph H. Putro, Philadelphia, Pennsylvania
5. Mr. Gene Buckingham, Boulder, Colorado
6. Mr. Joseph Fusaro, Boulder, Colorado
7. Mr. Robert F. Raikes, Boulder, Colorado
8. Mr. George Clark, San Antonio, Texas
9. Mrs. Ruth Coale, San Antonio, Texas
10. Mrs. Bessie Bryant, San Antonio, Texas
11. Mr. Donald Marks, Willingboro, New Jersey
12. Mr. George Bu[illegible]tovich, Willingboro, New Jersey
13. Mr. Leonard Patrizzi, Willingboro, New Jersey
14. Mr. Francis Lombardi, Willingboro, New Jersey
15. Miss Anita Latini, Willingboro, New Jersey
16. Mr. William Kane, Willingboro, New Jersey
17. Mrs. H. D. Gatewood, Houston, Texas
18. Mr. William Roller, Willingboro, New Jersey
19. Mr. John Heinz, Willingboro, New Jersey
20. Dr. Joan Berbrich, Mineola, New York
21. Mr. Joseph L. Besosa, Mineola, New York
22. Mr. Guy H. Brock, Mineola, New York
23. Mrs. Louise Petraglia, Mineola, New York
24. Mr. Arthur Vita, Mineola, New York
25. Mr. Joseph Vitale, Monroe, Michigan
26. Mr. Anthony Konstant, Baltimore, Maryland
27. Mr. Bertram Merritt, Baltimore, Maryland
28. Mr. Dudley Henry, Baltimore, Maryland
29. Mrs. Elizabeth Bader, Baltimore, Maryland
30. Mr. Theodore Rybka, Baltimore, Maryland
31. Mrs. S. N. Geister, Baltimore, Maryland
32. Mr. Paul Braungart, Voorhees Township, New Jersey
33. Mr. Troy Nuckols, San Mateo, California
34. Mrs. Rhoda Fishkin, Mineola, New York
35. Evonne Jackson, Baltimore, Maryland
36. Euna Ray Balch, Portland, Oregon
37. Mr. Joseph Nicastro, Quincy, Massachusetts
38. Mr. Frank Leporini, Quincy, Massachusetts
39. Mrs. Roberta Deason, Houston, Texas
40. Mr. Herman Bainder, Baltimore, Maryland

APPENDIX A-2

EDUCATIONAL SYSTEM FOR THE SEVENTIES

ES
'70

A COOPERATIVE PROGRAM FOR EDUCATIONAL INNOVATION

a teacher training institute for curricular action

THE DEVELOPMENT OF INDIVIDUALIZED INSTRUCTION IN VOCATIONAL EDUCATION

featuring...

Individualized Instruction
Developing Behavioral Objectives
Taxonomic Application
Developmental Task Analysis
Learning Package Construction

July 21 to August 8, 1969
Willingboro Memorial Jr. High School
Willingboro, New Jersey

APPENDIX B

MER TII AC WO OP

FIRST WEEK

DATE	JULY 21	JULY 22	JULY 23	JULY 24	JULY 25
9:00	Get acquainted coffee Intro. of Staff & Participants. Dr. Reuben -- Welcome.	Film: "How Good are our Schools?" Individual Pacing Via L.P.	Staff Present #3 Behavior Objectives (Mr. Gilbert)	Film: " Individual Differences" Individual Pacing Via L. P.	Inter-Discipline Workshops under Dept. Chairman (Examples: Discussion writing)
10:00	COFFEE Kickoff Speaker -- Innovative Learning (B. Pruitt) Film: "No Reason To Stay"	COFFEE Staff Presentation	Individual Pacing Via. L. P. COFFEE	COFFEE Staff Presentation	COFFEE
11:00	Orientation to Program and Facilities (G. Brandau)	#2 Learning Package (Kaufman) Plateau Groups Discussion	Plateau Groups Discussion	#5 Sample Object (Brandau) Individual Pacing Plateau Group Discussion	General Evaluation by Group
1:00	Introduction to Individualized Instruction. (Brandau) Issue L. P. 's	Visitation "Computer Education"	Films: " Importance of Goals" Staff Presentation #4 Behavior Objectives (O'Donnell)	Visitation "Implementing the Learning Process."	Staff Presentation "Verbal & Motor Skills" (Kaufman)
2:00	Individual Pacing Via L. P.	Philco - Ford Bus Trip	Individual Pacing Via LP	Abington (?) Bus Trip	Individual Pacing Via L. P.
3:00	Plateau Groups Discussion		Plateau Groups Discussion		Plateau Groups Discussion
Evening	Gilbert	Brandau	Kaufman	O'Donnell	

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SUMM INST TE ON KSHO.
SECOND WEEK

	July 28	July 29	July 30	July 31	August 1
9:00 AM	Film: "A New Look At an Old Log". Questions & Discussion	Film: " Computor Assisted Instruction ". CAI. Staff Presentation: #9 "Task Analysis: Structure"(Brandau)	Staff Presentation: #10, Task Analysis Development(Gilbert) Individual Pacing Via L. P.	Staff Presentation: #12 " Learning Package: (Kaufman)	"Interdisciplinary Objectives" George Love Presentation. Questions and Discussion
10:00 AM	Coffee (O'Donnell) Staff Presentation #7 "Criteria Test Items"	Coffee Individual Pacing Via L. P.	Coffee	Coffee Individual Pacing Via L. P.	Coffee Workshop " Development of Learning Packages" Staff
11:00 AM	Individual Pacing Via. L. P.	Plateau Groups Discussion	Plateau Groups Discussion Film: " Programmed Instruction "	Plateau Groups Discussion Resources & LRC (Olive Sedinger)	
1:00 PM	Demonstration P. E. Girls "Behavioral Objectives in the Gym" Miss Henry	Visitation " New Concepts in Vocational Training"	Staff Presentation #11 "Terminal & Interim Object" (Brandau)		Sample L. P. " Japanese"
2:00 PM	Staff Presentation #8 "Taxonomy" (Kaufman) Individual Pacing Via L. P.	Burlington County Technical & Vocational School Bus Trip	Individual Pacing Via L. P.		Participant Present sample L.P's
3:00 PM	Plateau Groups Discussion		Plateau Groups Discussion		
Evening	Gilbert	Brandau	O'Donnell	Kaufman	

SUMMER INSTITUTE ACTION WORKSHOP
THIRD WEEK

	August 4	August 5	August 6	August 7	August 8
9:00 AM	"Student -- Centered Curriculum" Dr. Bruce Tuckman & Staff.	------- RESOURCE PERSON PRESENTATION ------- "Achieving The Expected -- Vocational Education"	"The Merging Program of Tech. Science."(Smith)	"Mobilization for Action " (Brandau)	"Educational Television:" Dr. R. Bell
10:00 AM	Coffee QUESTIONS & DISCUSSION	Coffee QUESTIONS & DISCUSSION	Coffee QUESTIONS & DISCUSSION	Coffee QUESTIONS & DISCUSSION	QUESTIONS & DISCUSSION
11:00 AM	"Developing Vocational Instruction"	Dr. Worthington, N.J State Dept."Innovations for Vocational Education:"	" Flexible Scheduling" (M. Gilbert)	Film: " Television in Education	
1:00 PM	3-M Company	-------- INSTRUCTIONAL AIDS DEMONSTRATIONS ------------- Kodak (Visual Sound)	Ampex Corporation	Instructional Materials center Multi-Lith	" Final Group Conclusions:" Evaluation - Form :
2:00 PM		-------- DISTRUCT GROUP MEETINGS FOR ACTION IMPLEMENTATION ----------			
3:00 PM					
Evening	Gilbert	Kaufman	O'Donnell	Brandau	

APPENDIX C-1

PARTICIPANT EVALUATION OF SUMMER INSTITUTE

1. In relation to meeting the objectives of the program, how would you evaluate the effectiveness of the ORIENTATION portion of the program?

2. The learning resource center of Willingboro Memorial Junior High School and its auxiliary spaces was selected as the facility in which the program objectives could be met through actual utilization in appropriate learning activities. How do you evaluate the effectiveness of this facility in meeting the program's objectives?

3. Learning packets were used to help you move at your own best pace and to "live" the concept of individualized instruction. How would you evaluate the effectiveness of the packets you used?

4. How would you evaluate the quality of the multi-media materials available to provide branching and relief reinforcement for the learning of the concepts and meeting the objectives?

5. How would you rate the availability (quantity, ease of use) of the multi-media materials?

6. Each staff member was publicized as a specialist in one or more areas of concern in this program. How do you evaluate the effectiveness of the staff in relation to areas of specialization?

7. Each staff member was also available as a consultant on all learning packets. How would you evaluate the staff as generalists in this program?

8. The staff's intention was to work as a team as well as individually in such a manner as to demonstrate and encourage enthusiasm and cooperation. How would you rate the effectiveness of this staff goal?

9. How would you rate the effectiveness of the time limitations of a six and one-half hour day voluntary evening study in the building, and two weeks for the completion of the twelve packets?

10. Field trips were taken as supplemental learning exercises. How would you rate their effectiveness?

11. Speakers on various related topics were heard and discussion followed their presentations. How would you rate the effectiveness of the speakers in relation to the program objectives?

12. Presentations were made by various materials' vendors. How would you rate their effectiveness?

13. "Plateau" discussion groups were part of the structural arrangements to help consolidate learnings and to share thoughts. How would you rate their effectiveness in reaching program goals?

14. How would you rate the overall effectiveness of the program in helping you to meet the program's objectives?

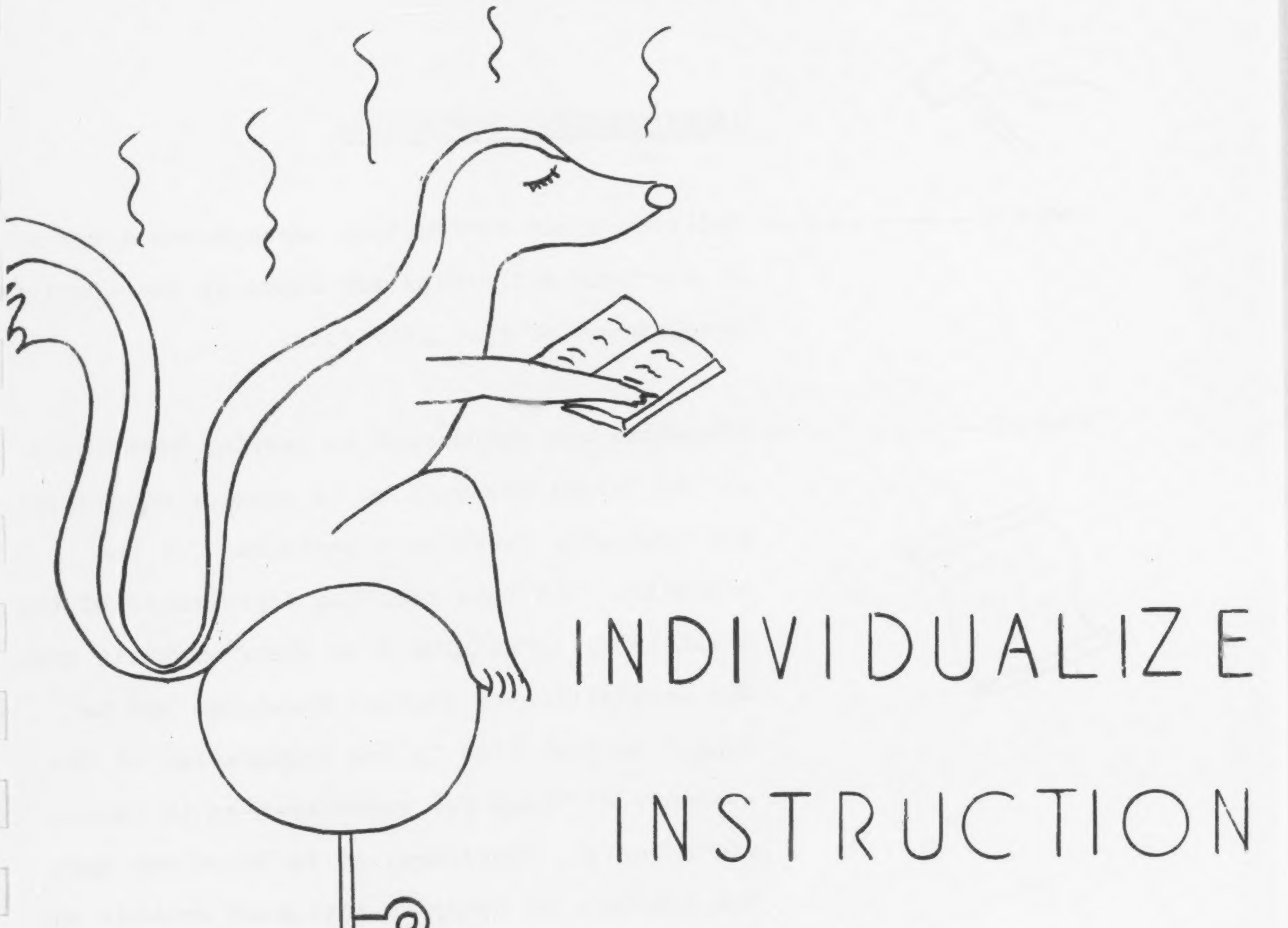
15. Please indicate your present attitude to this evaluation instrument as a means for gathering your feelings concerning the present program so that future programs can be improved.

APPENDIX C-2

PERCENT RESPONSES FOR QUESTIONNAIRE

QUESTION	HIGHLY EFFECTIVE	MODERATELY EFFECTIVE	RELATIVELY INEFFECTIVE	POOR
1	85%	10%	5%	
2	77%	23%		
3	67%	33%		
4	71%	24%	5%	
5	50%	36%	9%	5%
6	86%	9 %	5%	
7	95%		5%	
8	91%	9 %		
9	70%	25%		5%
10	5%	30%	30%	35%
11	32%	50%	9%	9%
12	24%	52%	19%	5%
13	40%	45%	5%	
14	86%	9 %	5%	
15	95%	5 %		

APPENDIX D



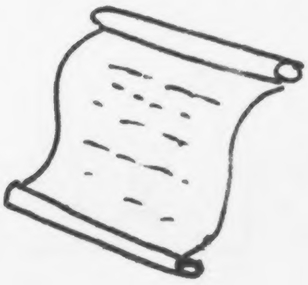
INDIVIDUALIZE INSTRUCTION

LP*1

INDIVIDUALIZED INSTRUCTION

CONCEPT-------------- Individualized Instruction encompasses a myriad of learning activities all aimed at the complete development of the individual.

PURPOSE-------------- Educators are encouraged to develop techniques of Individual Instruction to provide meaningful and realistic learning experiences for the students. The rote learning experiences of the traditional curriculum with their emphasis upon the acquisition of factual knowledge can no longer be justified in the preparation of the students of today for participation in tomorrow's world. Therefore, it is incumbent upon the teachers of today to implement methods and procedures that will afford the students every opportunity to develop fully in terms of their particular interests, abilities, and objectives.



PRE-TEST-------------
(SEE ORIENTATION SHEET #1)

BEHAVIORAL OBJECTIVE---------------

The Participant will list five intergal characteristics of an individualized program of education and discuss each with an instructor to determine the structure and function of these characteristics in their relationship to the learning process, the accuracy level for this objective being 100%.

LEARNING ACTIVITIES------------------

1. "Developing Individualized Instruction Through Behavioral Objectives" Segment #1
2. Audio Cassette #1 - "Individualized Instruction"
3. Overlays #1 and #2 - "Individualized Instruction"
4. "Indivualized Instruction in Action" - Videotape
5. Plateau group discussion - staff members
6. Film -
7. Vimcet filmstrip / audio tape - "Systematic Instructional Decision-making"

POST-TEST-

(See instructor - Brandau)

ENRICHMENT--------------------------

1. "Realms of Meaning" - Phenix. Chap. I
2. "The Saber-toothed Curriculum" - Peddiwell
3. "The Process of Education" - Bruner, Chap. 2

WE ARE LIVING IN A CHANGING SOCIETY

INDIVIDUALIZED INSTRUCTION

Educators and educational methods must meet the challenge of this changing society by providing meaningful learning experiences for the youth of today.

The vast increase in man's knowledge of his basic environment indicates that we must teach students how to learn since obviously we are not able to teach students everything that falls in the realm of knowledge.

so

Since students rarely learn at the same speed, time, or degree of intensity, it is incumbent upon educators to provide a valid learning program that will adequately fit their needs.

This brings us to....

INDIVIDUALIZED INSTRUCTION

Think about....

NEW GOALS FOR EDUCATION

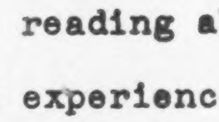
...A program of self-directed learning which allows for the fullest development of the individual according to his own capabilities.

...Removal of lock-step procedures that drag some students along on the coattails and at the same time restrict others from enrichment.

...A re-evaluation of the essential concepts that should be included in an educational program that will fully equip an individual for his participation in society.

...A learning atmosphere that is predicated upon flexibility and innovation rather than rigidity and tradition.

Discuss...,



INDIVIDUAL NEEDS

...Use of one text reference regardless of the reading ability of the student involved.

...Inability of the student to relate personal experiences or opinions to the concepts being presented.

...A closed door policy to depth study because of the "lesson."

...Being at the mercy of the strengths or weakness of a particular teacher in any given subject.

...Five periods a week being adequate for the educational need of a student in a given subject area.

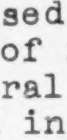
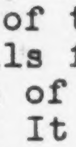
ARE YOU READY FOR CHANGE?

MEETING THE NEEDS

Change is a key word in the society of today and this applies to education as well as other facets of our environment. With the awesome progression into space flight, heart transplants, computorized living, and the like, it stands to reason that education must make provision for new goals and objectives which better meet the demands of such a society. It is no longer possible to disseminate large amounts of knowledge for student consumption under rote conditions for two very obvious reasons: (1) the technological advancement has become so great that the mass of material is impossible to learn fully; and (2) change occurs so rapidly in today's world that many things are actually obsolete before they can be incorporated into the curriculum.Therefore, it becomes imperative that we construct a program that is based upon the ability to meet and solve the problems of the future rather than merely accumulating the knowledge of the past.

Goals of education must be developed that provide for flexibility and change on a constant basis within the curriculum. It is the job of education to develop citizens for our society who can cope with the technical, social, and economic changes that continually occur, and who will readily adapt themselves to new modes of living. In this sense, the goal of education must be to teach students how to learn, how to meet and solve new problems that are as yet unidentified, and how to adapt themselves to an ever-changing society. Education, then, must be a continuous program of learning based upon a continuous evaluation of the needs of the individual. A program of individualized instruction calls for valid objectives stated in behavioral terms so that the performance of the student can be accurately measured in relation to desired outcomes. It also demands the re-evaluation of a course or subject through Task Analysis to determine the essential concepts to be included in a given subject area.

need is an important factor in the development of a realistic learning program that will adequately serve the youth of today. The public schools are serving the community as an educational source and should therefore fulfill the needs of the individual for his successful participation in his society. The creative abilities and the individual growth of the student must be paramount in the planning of any sound educational program. Our basic consideration must be centered around what the student is learning, rather than what we are teaching. To satisfy such a need, teachers themselves must be deeply involved in the development of adequate processes to further the desired outcomes in education.

 THE TEACHER MAKES IT HAPPEN 

THE DEMANDS OF INDIVIDUALIZED INSTUCTION

A Changing Educational Program

PHYSICAL ENVIRONMENT:

Innovation requires flexibility. We cannot restrict ourselves to the traditional structure of rows of desks, teacher-at-the-board, students-in-their-seats type of program or we will never get off the ground. Furniture, teachers, students, and equipment must be free to meet the needs of the instructional program.

MULTI-MEDIA APPROACH:

If individual instruction is to take place, emphasis must be placed upon the use of varied methods of learning. This demands that a variety o learning activities be associated with the learning process including audio, visual, and reference resources that provide more than one route to success for the student. In fact, the planning of student learning packages requires the development of a variety of resources to provide tracks of varying ability levels for student achievement.

SCHEDULING:

The budgeting of student time is an important item when dealing with a realistic individualized program. The ability to some degree should rest with the student to decide where his study, emphasis should be since he is best equipped to make this decision. Interest level also enters into the picture. A flexible schedule allowing for some selection or budgeting of time is essential to the success of the program. This means that a student could conceivably spend double the time in one subject that he does in another during the course of a week or semester.

CURRICULUM:

The curriculum for an individualized program should be performance oriented and student centered as a continuing flow of modules or learning packages by which the student can progress at a rate commensurate with his ability and interest. Such a curriculum should be geared to the desired outcomes for the student stated in behavioral terms. The important emphasis then becomes: WHAT IS IT WE WISH THE STUDENT TO LEARN; HOW IS HE GOING TO LEARN THIS MATERIAL; AND TO WHAT DEGREE OF ACHIEVEMENT MUST HE LEARN IT?

ROLE OF THE TEACHER:

It is hardly plausable to expect a teacher to consistantly work individually with every student in classes that range between twenty and thirty students. It is conceivable that a teacher be able to assist individually many more students than he normally does IF the students have self-directed learning activities with whcih to progress on their own. In an individual program, the teacher must take the role of "coordinator of learning" which places him in a position of coordinating the efforts of the students in his charge toward achievement of their objectives rather than merely imparting scads of knowledge that the teacher can supply. This means that the student can progress on his own, but may require the aid of the teacher in solving a problem, seeking a resource, interpreting a reference, etc. Much of the teacher's time is spent in planning, organizing, and directing the activities that make up the learning modules.

IS THAT BAD?

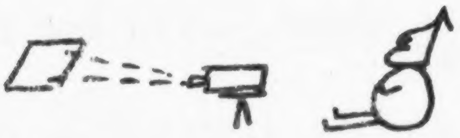
MAKE IT YOUR THING !!

FIRST........

Put your class in motion! Students with a purpose must be free to implement their objectives. The furniture in the class may need to be changed to form discussion circles, visual corners, testing areas, class refernece area, or even a work corner. If a student works better standing up, are you going to make him sit down?

SECOND........

Beg, borrow, or....Well, try to get an overhead projector, a slide projector, a tape recorder, a flannel board, an available ditto machine, etc., into you room. Set up a visual corner where students can "get to these things." Build resources to support each concept in your program. Make the program "live".



THIRD........

Try to arrange a schedule which allows for the student to select some of his own study time. Encourage students to seek help on a one to one basis where the most intense learning takes place. Begin an honors pass system, innovate resource learning areas, try a house plan with free student exchange. You'll find the student alot more interested and interesting!

FOURTH........

Give some serious thought to what it is you want the students to walk away with when they have finished your course. Will it be something that will serve them in life, or did someone long ago decide it should be learned for some reason at that time?

FIFTH........

Pull some essential concepts together as explained in lessons eight and nine of this program, add some resources to develop a learning package and put your students in motion. Look around while you are doing it. You will not be the center of attraction any longer. Students will be surging ahead with their objectives on their own. You are still the focal point, but in terms of helping the students learn, not teaching them what you know. It will be very satisfying.

SIXTH........

EVALUATION

If as a teacher you have reservations and misgivings concerning the need for an individualized program to fit the needs of the youth of today, you are asked to evaluate the following objective test. Keeping in mind the fact that we are in the business of teaching children (or better yet - having them learn), it is suggested that you administer the test below to any or all of your classes and then seriously evaluate the statistical results. Make it anonymous for best results.

STUDENT EVALUATION

Please write YES or NO in the space provided before each question after proper deliberation. Be honest in your appraisal.

_____ 1. Is there an opportunity to explore interesting concepts as deeply as I wish in this class?

_____ 2. Do I find ample opportunity to freely develop my ideas in discussion and written work in this class?

_____ 3. Is the textbook and/or other reference material used in the class sufficiently informative for my learning?

_____ 4. Are the learning activities of the class varied and interesting in their content and challenge?

_____ 5. Am I able to progress through the class material as rapidly as I can with understanding?

_____ 6. Do I find that at times I have difficulty keeping up with the new material being presented in class?

_____ 7. Am I permitted the opportunity to work by myself or with a small group of students rather than have the entire class concentrate on the same material?

_____ 8. Do I enjoy and benefit from the teacher-lecture type of class presentation?

_____ 9. Am I responsible enough to work at my own rate of speed without constant supervision by the teacher?

_____ 10. Are there areas of this subject that I would like to investigate but do not get the opportunity to do so?

MAYBE WE DON'T EVEN HAVE TO GIVE THE TEST

THE INSTRUCTIONAL PACKAGE: FORMAT

LP*2

INSTRUCTIONAL LEARNING PACKAGE

CONCEPT ------------ The Structure and format of an Instructional Learning Package to be used as a vehicle for individualized study.

PURPOSE ------------ The Instructional Learning Package is an educational tool by which individualized instruction in the classroom can be implemented. The package satisifies many of the basic needs for the individual student by providing opportunities for self-direction, free selection, enrichment, and varied learning procedures among other things. The Learning Package is linked to a systems approach to education by its basic sense.

PRE-TEST------------

(SEE ORIENTATION SHEET #2.)

BEHAVIORAL OBJECTIVES----------

The student will list in writing the seven parts of the suggested package format and describe orally the basic premise for the use of each at an accuracy level of 85%.

SUB OBJECTIVES--------

1. The student will list in writing five factors of a learning package that provide opportunities for realistic learning activities at 80% accuracy.

2. Given the concept of a learning package pre-test, the student will discuss orally the function of the pre-test to the satisfaction of the instructor.

LEARNING ACTIVITIES-----------

1. "Individualized Instruction Through Behavioral Objectives and Learning Packages", Brandau, Segment II
2. "Working With Individualized Instruction", Esbensen pp. 1-3
3. "Developing Attitude Toward Learning"; Mager, pp. 3-12
4. "Innovation in Education"; CED, Chap. 3
5. Audio Cassette #2 - "Individualized Instruction" - LRC
6. Overhead Projector Overlay #2a, 2b - "Individualized Instruction" - LRC
7. Film:
8. Videotape #2 - "Individualized Instruction" - Dial Access
9. Staff conference - Kaufman
10. Group Interaction plateau meeting

POST-TEST -

(See Instructor - Kaufman)

ENRICHMENT

1. Review instructional package samples
2. "How to Write a Unipac" - (Kaufman)

LEARNING PACKAGE

Individualization.....pacing.....tracking.....self-directed study.....

.....multi-media.....systems approach.....enrichment

These are all fine terms and deserve intense consideration by educators everywhere for the basic improvement of the learning process.

HOWEVER

In order to expedite these innovations into actual practice in the classrooms across the country, there is a dire need for ....

A VEHICLE FOR LEARNING

With thirty students in a classroom, a teacher cannot possibly prescribe an individual program for each student. What is needed is an educational VEHICLE (instructional package) which allows for self-directed study on the part of the student.

A series of such packages is the heart of an individualized program.

DIVERSIFIED APPROACH

The Learning Package is student-orientated. It offers a diversified approach to learning that includes a wide range of learning activities. Students are not under the spell of a lecturing teacher, nor are they lock-stepped with a textbook or course of study.

A Learning Package offers ......

REALISTIC LEARNING

Consider the educational value of the following:

Precisely-stated objectives for the student

Planning and budgeting of study time by the student

Student selection of resources for learning

Student opportunity for enrichment in interest areas

Pre-testing and emphasis on what is not known

Student self-evaluation and motivation

You, the TEACHER, must take a new role as manager and coordinator of learning. You will act in the capacity of support to the learning process. You will help them to learn not merely what you know, but what is necessary and meaningful for their needs.

THINK ABOUT IT

INDIVIDUALIZED INSTRUCTION VIA LEARNING PACKAGES

A program of continuous learning based upon the individual student's pace or ability to master prescribed objectives is a very realistic approach to education. In this manner, a student is not held in lock-step with the class either floundering to keep up or being restricted from moving ahead. Such a program can be developed through the vehicle of the learning package.

The learning package calls for an acceptable level of performance on the part of the student in learning certain valid concepts that are deemed essential to the subject. When a student finishes one package, he moves on to the next in a continuous program of learning. If the student evidences great interest in a particular area, he may engage in quest or enrichment activities in a greater depth study of that area. If the student fails to achieve, the specific areas of difficulty are evident and a secondary route of learning is employed at the suggestion of the teacher. Continued difficulty would call for special teacher help.

The use of Learning Packages provides a diversified approach to the learning process because it demands a wide range of learning activities which the student may select as his route of learning. If we base all our resources upon reading references, what happens to the student with basic reading problems? Built in the package can be audio and visual resources as well as peer group interaction that can also provide meaningful learning. After all, the most important thing is for the student to learn.

The Learning Package is entirely student-oriented. In every aspect, it is deisgned to provide meaningful information so that the student can effectively master the concepts presented. Packages include realistic purpose, precisely stated objectives, varied learning activities, and self-evaluation. The student is given a share in the learning process with the opportunity to select, evaluate and carry on depth study. This is motivational.

Learning Packages take time and energy to construct. The most effective and realistic packages are made up by teachers for their own subject areas. There should be forethought about the sequence and continuity of the packages developed. This is covered later in the program under Task Analysis.

THE STRUCTURE OF THE LEARNING PACKAGE

We have indicated that a Learning Package is a vehicle for the student to achieve certain intended behavior by self-directed learning activities carried on at individual pacing.

so

A Learning Package must be:

CONSISTANT
MEANINGFUL
CLEAR
COMPLETE
SATISFYING

This implies that considerable time and effort must be put into the construction of these learning modules to make them effective tools of education.

(The mercenaries will throw up their hands at this point and insist that such time is not available)

HOWEVER....

ENRICHMENT
POST TEST
RESOURCES
PRE-TEST
OBJECTIVE
PURPOSE
CONCEPT

Here is a suggested format to use in the construction of a learning package. It is not unique, nor is it without criticism. It is not our intent to impose it on anyone.

MAKE UP ONE OF YOUR OWN!

With this type of format, a number of things consistently develop:

- Awareness of the area of study
- Correlation and relevancy of the material
- Specific target performance for students
- Pinpointing individual needs
- Providing a varied approach to learning
- Making learning, not passing, the criterion
- Allowing self-determined learning through enrichment

It is thought that the above list attempts to provide relevant and realistic educational aims by which students can make more efficient use of their study time during the learning process.

DISCUSS THAT

LEARNING PACKAGE FORMAT

IDENTIFICATION

Each learning package should contain an identification of the concept, skill, attitude or subject to be considered. There is no advantage to keeping this from the student.

In addition to the major or sub concept, a rationale or generally stated purpose should introduce the learning package to provide motivation for the student by telling him what is being learned and why it is meaningful.

OBJECTIVE

The Behavioral Objective is the most important part of the learning package. It states in clear, precise wording exactly what it is the student must do. The objective is so worded that there can be no doubt about the level of achievement or the intended learning outcomes. A learning package may contain only one, or a number of behavioral objectives. In some cases, several sub-concepts are grouped together for greater clarity.

PRE-TEST

An integral part of the Learning Package is the Pre-Test. This test, which may also serve as an alternate post-test, can act as an entry level indicator for the student. If the student can satisfactorily achieve in the pre-test because he has mastered the concepts, it is not necessary for him to restudy material he already has mastered. If there are parts of a Learning Package that the student has not mastered, it makes sense to allow the student to spend his time working on the material he does not know. In this way, the student is not forced to study material he already is familiar with, he is not forced into material that is too difficult for him, nor is he forced to use resources that he cannot handle.

In an individualized program, the readiness of the student for testing must never be doubted. There should be no failure. If the student fails to achieve, he goes back over another route to learn (possibly with teacher support).

RESOURCES

The resources for learning are included in the package as a listing of relevant learning activities specifically designed to fortify the objective. The activities should include several different routes to the learning of the same objective and should be varied to include audio, visual, reading, and interacting activities. Here the student makes choices in selecting the best materials for his individual needs in the learning process.

ENRICHMENT

Every student should have the opportunity to delve deeper into areas of interest to himself and not be restricted by the textbook or course of study. The student himself can develop new objectives.

SELF EVALUATION

____ 1. The Learning Package is a:
    a. teaching device
    b. vehicle for learning
    c. supplemental resource
    d. workbook

____ 2. The basic structure of the Learning Package is centered around:
    a. the Pre-test
    b. the concept
    c. enrichment
    d. the behavioral objective

____ 3. The Learning Package constructed properly affords the student:
    a. specific target performance
    b. a varied approach to learning
    c. self-evaluation
    d. opportunities for self-direction

4. List below three characteristics of a good learning package:

    1.

    2.

    3.

5. Name the three parts of the learning package format which you feel are most important:

    1.

    2.

    3.

6. List three ways in which the learning package provides for student-oriented study:

    1.

    2.

    3.

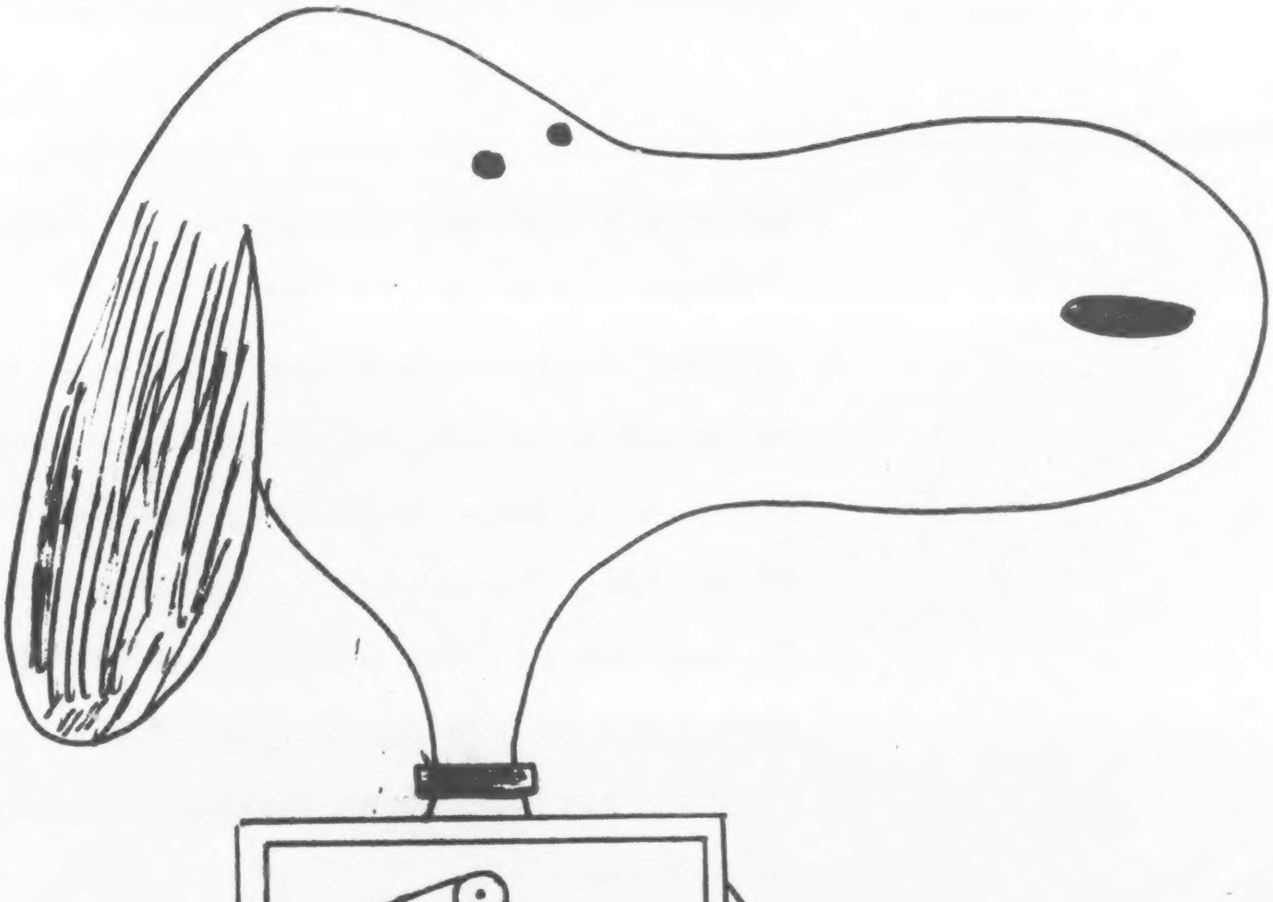
7. If you were asked to drop off one area of the learning package format, which area would that be?

8. If you were asked to add an area to the learning package format, what would that area be?

9. Discuss how individualization can be accomplished without the use of a learning package.

10. What is the role of the teacher in a program using instructional learning packages as the basis for study?

BEHAVIORIAL OBJECTIVES:



STRUCTURE

LP 3

BEHAVIORAL OBJEVTIVE: STRUCTURE

CONCEPT---------------- The Behavioral Objective is a precise statement of educational intent that describes what the learner will be doing in measurable terms.

PURPOSE---------------- In order to write sound objectives, it is necessary for the teacher to be able to differentiate between educational goals and instructional objectives. It is also necessary to be able to identify the basic component parts of a sound objective so that the skill of writing objectives is further enhanced. In segment #3, the teacher is introduced to structure of the Behavioral Objective to fortify his awareness before actually writing objectives.

PRE-TEST---------------

(SEE ORIENTATION SHEET #3)

BEHAVIORAL OBJECTIVE---------------

Given the concept of the Behavioral Objective, the student will state orally the three basic parts of the sound objective and describe orally to the satisfaction of the instructor the basic function of each part.

SUB OBJECTIVES---------------

1. Given a list of ten verbs, the student will identi by checking all the verbs which are acceptable for use in behavioral objectives at an accuracy level of 90%.
2. The student will identify the parts of five written objectives by placing a P, C, or A, over that portion of the objective which is performance, conditions, or accuracy, the level of achievement for this exercise being 85%.

LEARNING ACTIVITIES---------------

1. "Individualized Instruction, op. cit., Brandau, Segment #3
2. "Preparing Instructional Ovjectives", Mager, Chap. 1, 2, 3
3. "Developing Attitude Toward Learning", Mager Chap. 3
4. "Innovation in Education", [illegible] pp 32-37
5. "The Process of Education", Bruner Chap. 2
6. "Faculty Course in Educational Technology" Quinn, Chap. II
7. "Working With Individualized Instruction", Esbensen pp. 3-8
8. Audim Cassettee #3 "Structure of Behavioral Objectives" -
9. Overhead projector overlay #3a, 3b, 3c - Behavioral Objectiv
10. Videotape #3 - Behavioral Objectives: Structure - Dial Acces
11. Vimcet Filmstrip - "Educational Objectives"
12. Staff conference - Gilbert
13. Group interaction plateau meeting

POST-TEST-

(See Instructor - Gilbert)

ENRICHMENT---------------------

1. "Developing attitude toward Learning" Mager Chap 4, 5, 6

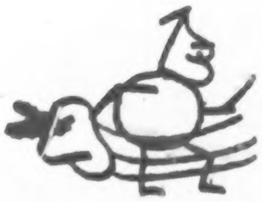
BEHAVIORAL OBJECTIVES

Individualization of instruction calls for self-directed learning activities on the part of the student that will enable the student to achieve certain desired outcomes that are relevant to the course or area of study.

For selected educational goals, there must be relevant instructional objectives. These objectives must be stated in clear, precise terms, with no possibility of doubt or uncertainty.

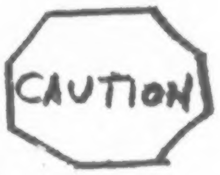
If the objective states a specific performance as the desired outcome, then the level of achievement can be measured in terms of the behavior displayed by the learner.

(If we cannot measure the achievement of the learner, how do we know that learning is taking place?)



We are introducing Behavioral Objectives. Such objectives form the foundation of Learning Packages and Individualized Instruction. They are extremely valuable in stating specifically what the learner is to accomplish. The behavioral symbol to the left welcomes you to the fold. Let's get on with it!

A Behavioral Objective is a statement of instructional intent to fulfill or fortify an educational goal where the objective clearly describes the final performance in terms which will be understood by everyone (teachers, students). The emphasis is placed upon what the learner must do to achieve satisfactorily.



Be careful not to mix educational goals with performance or behavioral objectives! Stop and look:

The student will gain an appreciation of Rennaisance Art.
The student will know the quadratic formula.
The student will understand the role of the colonies in the system of mercantilism.

How do we determine whether or not a student appreciates? When does a student know something? What consistutes an understanding of certain concepts?

These are all broad terms which imply learning, but do not allow for the measurement of achievement.

REMEMBER

A Behavioral Objective is a statement of instructional intent where the final performance (behavior) of the student can be measured!

BEHAVIORAL OBJECTIVES

Instructional Technology and the Systems Approach to Education.

If we were to take a cold, calculating look at education, we would undoubtedly focus our attention on such items as what is the student expected to learn; under what conditions does this learning take place; and, to what degree of efficiency must the performance occur? In truth, this is the basis of individualized instruction and the development of Learning Packages.

Instructional objectives stated in behavioral terms (that is to say in terms of what the student will actually be doing) provide an opportunity for educators to plan specific outcomes as a result of learning activities which will develop desirable outcomes for the individual.

SPECIFIC PERFORMANCE

If educators utilize behavioral objectives designed to support relevant educational goals, then it is possible to determine the actual attainment of those goals because the learning vehicle has been stated in measurable terms.

The Behavioral Objective is continually predicated upon what the student will be doing at the point when he is successfully demonstrating his mastery of the objective. The main impetus is upon performance, and this performance can be measured by some subjective or objective tool in the hands of the educator.

BEHAVIORAL OBJECTIVES

These are objectives that hold a constant meaning for both teachers and students. The objective itself calls for a particular performance on the part of the student as a final outcome to the learning activity. These outcomes have been carefully weighed as to their educational worth to the individual and are therefore meaningful to the student. The structure of Behavioral Objectives calls for restricted language to stipulate the intent, and inclusions in the objective that will insure the precise meaning of the desired behavior. We will consider this at greater length in the next lesson.

EDUCATIONAL GOALS

There is confusion in education as to goals and objectives. In developing a Task Analysis later in this program, we will see the place of each more clearly. For now, be sure that such terms as understand, appreciate, enjoy, evaluate, develop, and others similar to this are not injected as objectives. The place of the objective is to support and fortify a goal. The goal would be a final effective outcome very difficult to measure during the learning process. Behavioral objectives, on the other hand, must be measurable at the moment of achievement so that progress can ensue from one objective to the next. It is through instructional objectives that individualization can take place as students move from one objective to the next in a program of continuous learning.

STRUCTURE

GET TO KNOW THE LANGUAGE!!

The Behavioral Objective is made effective by the use of certain "action verbs" which are definitive to a great degree. It is extremely important that the intended behavior be spelled out.

THE STUDENT WILL.......UNDERSTAND
IDENTIFY
EVALUATE
CONSTRUCT

Think!

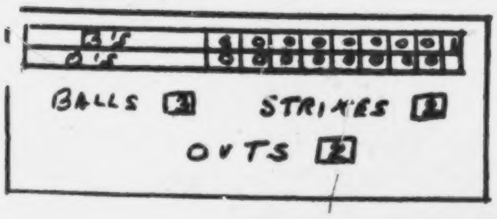
Which are measurable?

In writing Behavioral Objectives, three items are always necessary.....

PERFORMANCE

The statement of Performance will tell what the student will be doing when he has mastered the objective. That is, it will indicate the intended behavior as an educational outcome of learning.

"The student will hit the pitched ball....."

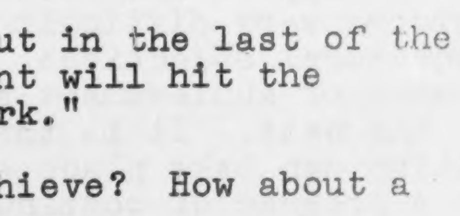


CONDITIONS

Under what conditions will the student perform the prescribed behavior? Certainly broad implications are confusing to the student. Therefore, each objective should have its own set of guidelines or restrictions to further designate the target behavior.

"With the count 3 and 2 and 2 out in the last of the 9th, one run behind.........

ACCURACY



The level of achievement should be geared to the particular objective establishing a minimal level of performance for the objective. It should however, be concrete enough to avoid possibilities of confusion.

"out of the ball park."

PUT IT TOGETHER: "With the count 3 and 2 and 2 out in the last of the 9th, one run behind, the student will hit the pitched ball out of the ballpark."

NOTE: If the student triples, does he fail to achieve? How about a walk? A single? A double?

DISCUSS

THE STRUCTURE OF THE BEHAVIORAL OBJECTIVE

In constructing Behavioral Objectives, it is imperative that the language used be concrete to the degree that everybody derives the same meaning as to the performance required. To avoid ambiguity, careful selection of action terms is necessary.

POOR	GOOD
The student will enjoy reading...	The student will list the five...
The student will develop a theme...	The student will identify........
The student will know the steps...	The student will write the names...

In the comparison above, the attempt is made to distinguish between loosely worded statements which imply learning goals, but do not provide specific performance to be measured. If you ask a student to list certain items, to identify particular components, or to write specific things, this is meaningful in terms of the desired behavioral outcomes.

PAUSE TO DISCUSS THE ABOVE
See attached sheet

The structure of the Behavioral Objective centers around three integral parts. All three are necessary for a sound objective.

PERFORMANCE

The Behavioral Objective stipulates specific performance on the part of the student. It is important that this performance be applicable to valid measurement to insure the fact that the objective has been achieved and that learning has taken place. You ask - What is it that the student must learn? Then, by the use of acceptable action verbs, you state what the learner will be doing (behavior) when he is successfully achieving. This terminal performance as a desirable out come of learning is then in direct support of your basic educational goal.

EXAMPLES:

The student will construct a hypothesis..........
The student will compare in written paragraphs...
The student will recite orally to the class......

CONDITIONS

The circumstances surrounding the behavior of the student must be included to alleviate any misconceptions about what is expected. The objective becomes more specific when restrictive conditions are added to further direct the student's efforts to successful achievement. The statement must not only indicate what the student will be doing, but also under what conditions will this performance take place..If the student is asked to solve certain arithmetic problems, does he write the answers, recite the answers, or merely think about them?

EXAMPLES:

The student will solve correctly twenty math problems.
or
Given twenty linear equations, the student will write the correct solution for X opposite the example.

ACCURACY

The term accuracy is used to denote the level of achievement that is expected of the student. Achievement in many cases might be rated in terms of the acceptance or satisfaction of the instructor, a peer, or a group.

SELF EVALUATION

1. List the three basic characteristics of the sound behavioral objective:

a.________________

b.________________

c.________________

2. Write five terms which are proper action words that can be used with behavioral statements in constructing an objective:

a.____________ d.______________

b.____________ e.______________

c.____________

3. List three common words used to signify educational goals in an affective sense:

a.______________ b. _____________ c.____________________

4. In constructing a behavioral objective, the emphasis is always placed upon what the student _________________.

5. Identify the following parts of a behavioral objective in terms of CONDITIONS, PERFORMANCE, or ACCURACY: (C, P, A)

____ a. The student will use a plane to square the board to proper dimensions.

_____b. the level of achievement being 80%.

____ c. A paragraph will be written which includes a description of two characters of opposite personality.

____ d. Given a pair of calipers and a turned piece of wood dowel.

____ e. This being accomplished to the satisfaction of the student committee.

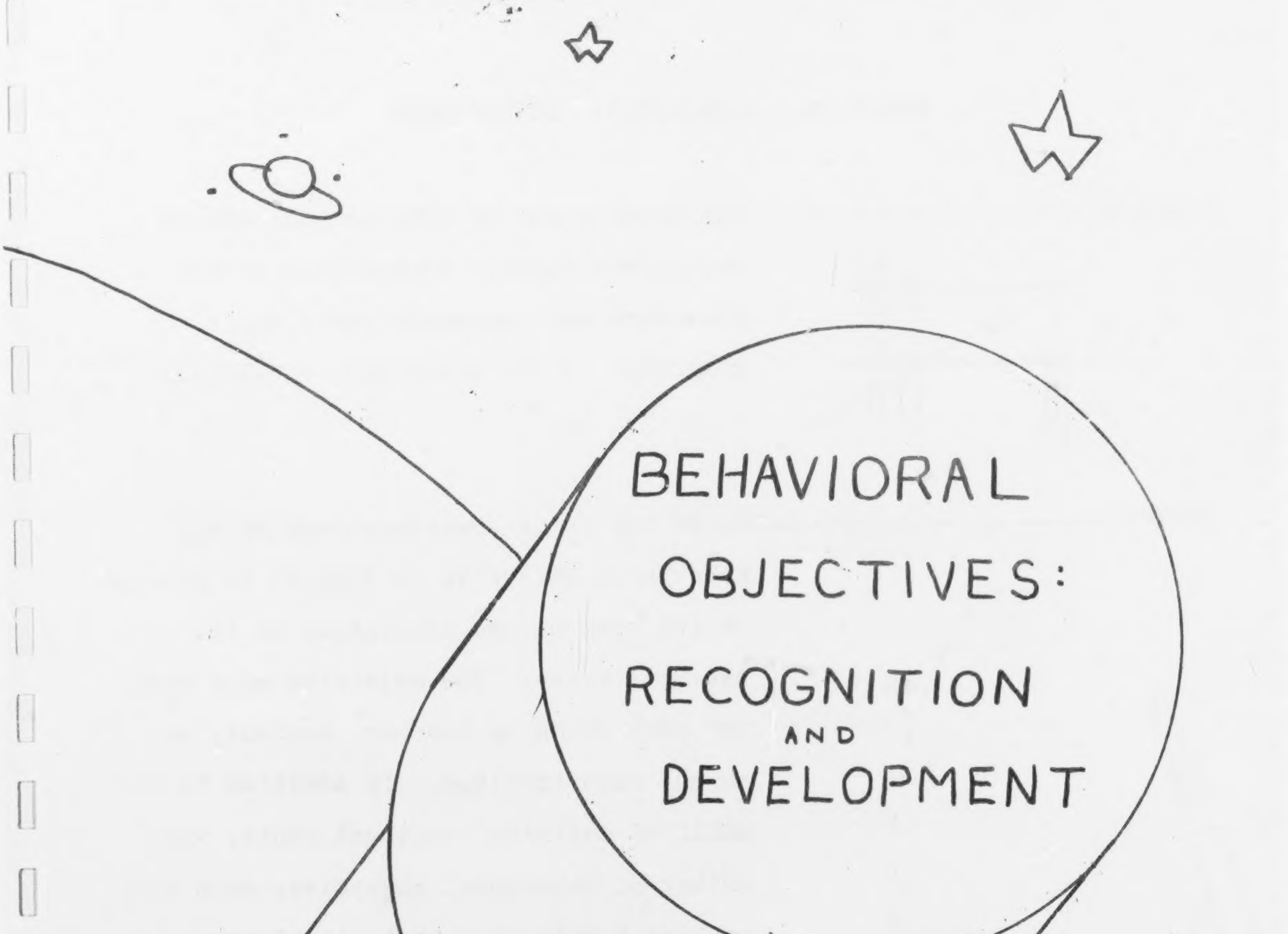
6. Which of the following statements fulfills all the requirements of a sound behavioral objective?

a. The student will understand the steps involved in operating the band saw correctly at an accuracy of 100%.

b. Given a radio with one deficient tube, the student will fix it.

c. The student will write a poem dealing with the concept of love.

d. Given a blueprint drawing of a bookshelf, the student will construct the bookshelf from 3/4" white pine to an efficiency accepted by the instructor.

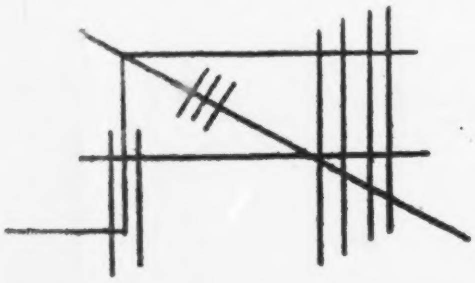


BEHAVIORAL OBJECTIVES: RECOGNITION AND DEVELOPMENT

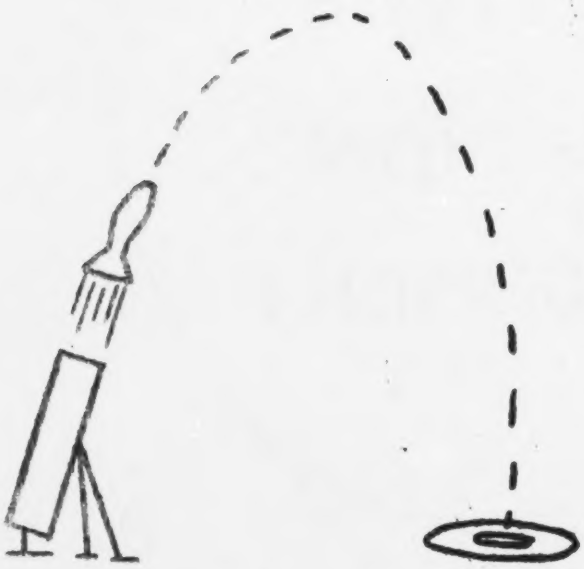
LP *4

BEHAVIORAL OBJECTIVES: DEVELOPMENT

CONCEPT---------------------- The development of Behaviorally-stated Objectives demands recognition of the structure and component parts and a knowledge of the acceptable vocabulary.



PURPOSE---------------------One of the prime considerations of any behavioral Objective is that it be precise in its meaning and consistent in its interpretation. The objective must mean the same thing to teacher, student, or anyone else involved. In addition to the skill of defining component parts, the writer of behavioral objectives must also utilize terminology that will leave no doubt in the mind of the reader exactly what is expected as terminal behavior.



PRE-TEST-

(SEE ORIENTATION SHEET #4)

BEHAVIORAL OBJECTIVE---------------

Given a common learning concept used widely in education, the stüdent will write the Performance, Conditions, and Accuracy facters for a Behavioral Objective to satisfy this concept to the satisfaction of the instructor.

SUB OBJECTIVES-----------

1. Given five prepared objectives, the student will determine which factors are missing from the objective in terms of performance, conditions and accuracy.
2. Given statements (5) of performance, the student will add factors of conditions and accuracy to make the statements complete Behavioral Objectives at 100% accuracy.

LEARNING ACTIVITIES---------------

1. Individualized Instruction, op. cit. Brandau, Segment #4
2. Preparing Instructional Objectives, Mager, Chap. 4, 5.
3. Faculty Course in Educ, Tech, Quinn, pp. 11-13
4. Reprint: "Performance Objectives"' Esbensen, part I
5. "Developing Vocational Instruction" Mager & Beach, Chap I
6. Audio Cassette Tape - #4 "Developing Behavioral Objectives"
7. Overhead projector overlays - #4a, 4b, 4c - Behavioral Objectives
8. Videotape #4 -"Developing Behavioral Objectives"
9. Vimcet Filmstrip - "Selecting Appropriate Educational Objectives"
10. Staff Conference - O'Donnell
11. Plateau meeting, Group interaction

POST-TEST-----------------------

(See Instructor, O'Donnell)

ENRICHMENT----------------------

1. "Developing attitude toward Learning" - Mager Chap. 8
2. Vimcet Filmstrip: "Identifying Affective Objectives

BEHAVIORAL OBJECTIVE DEVELOPMENT

The developmetn of sound objectives, stated in behavioral terms, is based upon the use of proper action words....

LIST WRITE IDENTIFY CONSTRUCT RECITE

and....

the combining of the three basic characteristics of an objective...

PERFORMANCE
CONDITIONS
ACCURACY

to form a precise statement which clearly states the desired performance (terminal behavior) of the student when he is mastering the objective.

Consider this:

"The student will inderstand the use of pronouns."

In the first place, the terminology is extremely poor since we have no indication of the behavior involved in "understnding" and therefore will be unalbe to measure the performance.

Secondly, we have failed to set guidelines (conditions) as to how the pronouns will be used.

Third, there is no level of achievement explicitly defined to determine or validate the actual learning that has taken place.

POOR !!

Try this:

"Given twenty sentences, each with one pronoun included, the student will identify the case of the pronoun by placing a symbol of it in the sentence. N is for nominative, O for objective, and P for possessive. The accuracy level for this exercise is 85%."*

DISCUSS! !

GOOD !!

Try these:

"The student will be able to develop a composition including all the necessary characteristics in the span of one hour."

"The student will list five types of court cases which fall under the original jurisdiction of the Federal Supreme Court, the accuracy level being 80%.

*Do not take for granted that this example is relevant learning.

DEVELOPMENT OF THE BEHAVIORAL OBJECTIVES

In developing sound objectives, the emphasis is always placed upon the actual performance of the student or what he will be "doing" when he is mastering the objective. To insure clarity, it is recommended that we use certain "ACTION WORDS" that are precise in their meaning so that every student will gain the same conception as to what is to be done, Consider the following:

The student will know the Constitution of the United States.	The student will list the three basic branches of the federal government and write the major function of each alongside the branch.

The difference in "knowing" something as a vague term implying certain learning progress and "listing" and "writing" are fairly obvious. It is imperative that instructors do not assume that students automatically understand verbal and written directions.

COMPARE......

to recite orally	to show knowledge of
to list three similarities	to discuss the relationship
to identify five characteristics	to determine the structure of

When you have established the importance if the action words in the development of a sound objective, it is time to consider the structure by including the three basic characteristics of the behavioral objective:

PERFORMANCE	CONDITIONS	ACCURACY
the student will identify in writing ten factors which make it a social problem	Given a written paragraph on the subject of Drug Abuse	at an achievement level of 90%.

In the above exercise, the student is presented with all the necessary information to insure adequate understanding of what is expected of him in terms of the desired outcome. There can be little misconception. The exact performance is decreed by the action word "identify" while the conditions or guidelines relegate the topic to "drug abuse". Finally, the level of mastery is indicated by a percentage figure which demands nine out of ten factors to be identified (or allowing only one error).

You should be in position to try you hand at the assembly of an acceptable objective. Do this in steps, taking the performance [illegible] adding the conditions to restrict the student activity to certain spe areas and then carefully consider the level of achievement that wou pr [illegible] for this objective (it may vary among objectives).

STRUCTURAL RECOGNITION

It is extremely important that one be able to recognize any characteristic lacking in a supposed behaviorally stated objective. Only in this way can we condition ourselves to the construction of sound objectives. Behavioral Objectives are not mere statements of a learning outcome.. They must include the structual features known as PERFORMANCE, CONDITIONS, AND ACCURACY.

Consider the following:

"Given ten linear equations, the student will solve for x."

"The student will write a paragraph at 100% accuracy."

"Given ten questions on the battle of Gettysburg, the student will answer the questions at 90% accuracy."

"The student will understand the 8 sections of Article I of the Constitution at an achievement level of 88%."

There is something wrong with each of the above statements which makes them unacceptable in behavioral terms.

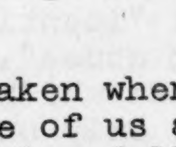
DISCUSS THIS WITH A COMPATRIOT

As you become familiar with the structure of the objectives and learn to recognize the essential parts, it becomes necessary to upgrade the characteristics of Performance, Condition, and Accuracy. By this we mean to give greater attention to the particular outcomes that you desire as you formulate the objective.

Dealing first with Performance, you must give considerable thought to the proposition of what it is that you want the student to do as an essential act of learning. If you have established a relevant concept associated with your program, then it is necessary to provide relevant behavior as an outcome of the objective which can be measured to show that learning of that concept has indeed taken place.

The area of Conditions demands caution also, since a loose statement will tend to confuse the student as to what it is that you want him to master. If you merely ask the student in the statement to write a composition or to perform an experiment, or to present an oral report, you are in danger of having the student go far afield from the original concept that you deemed worthwhile.

Finally, care must be taken when determining the efficiency level that must be achieved, Some of us are very unrealistic in our evaluating process because we fail to give full consideration as to just how much constitutes success. We would only caution that it varies with the objective (and the individual).



BEHAVIORAL OBJECTIVES: RECOGNITION AND DEVELOPMENT

Pick a concept!

Any old concept!

(A concept is a learnable idea, attitude, or skill)

NOW...

Structure the concept as an objective

Determine the terminal behavior that the student will evidence when he is successfully mastering the objective. (PERFORMANCE) Then, establish guidelines as a framework within which the learning can take place (CONDITIONS). And finally, decide the achievement level that is appropriate to validate the learning. (ACCURACY).

YOU HAVE JUST DEVELOPED A BEHAVIORAL OBJECTIVE!

Look at some examples:

Concept: Transposing

Performance: The student will transpose the whole numbers to solve for the value of X.
Conditions: Given ten linear equations with the single factor X
Accuracy: At 90% accuracy

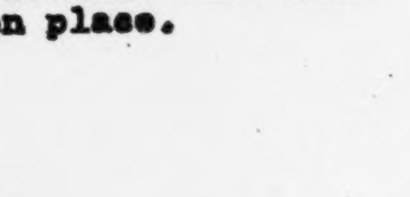
Concept: Revolution

Performance: The student will list five factors common to all revolutions
Conditions: Given the reference of the term "Revolution" designating a social upheaval against authority
Accuracy: the level of achievement being 100%

Concept: Rebuttal

Performance: The student will refute the major points of the presentation with valid arguments orally.
Conditions: Presented with a verbal dissertation on the social advantages of drinking alcoholic beverages
Accuracy: to the satisfaction of a peer group panel

DISCUSS!



THIS IS N HOUR......

Utilizing the concept of GRAVITY, develop an objective that will call for performance (behavior) on the part of the student that will indicate in measurable terms that learning has taken place.

Do you want him to...

DEFINE THE TERM
APPLY THE PRINCIPLE
WRITE THE CHARACTERISTICS
INVENT A HYPOTHESIS

SELF EVALUATION

I. The use of acceptable action verbs is very important to the development of behaviorally-stated objectives. Put a check mark next to thos words which you think are measurable:

______ will enjoy

______ will recite

______ will list

______ will contrast

______ will know

______ will determine

______ will deduce

______ will name

______ will discuss

______ will apply the formula

II. In order for a behavioral objective to be meaningful in all aspects, there are three characteristics that must be prevalent:

______________ ______________ ______________

III. Beside each of the following examples, write P, C, or A indicating performance, conditions or accuracy as that characteristic of a Behavioral Objective being cited:

______ 1. "with no more than three errors for the exercise."

______ 2. "the student will identify by marking a check...."

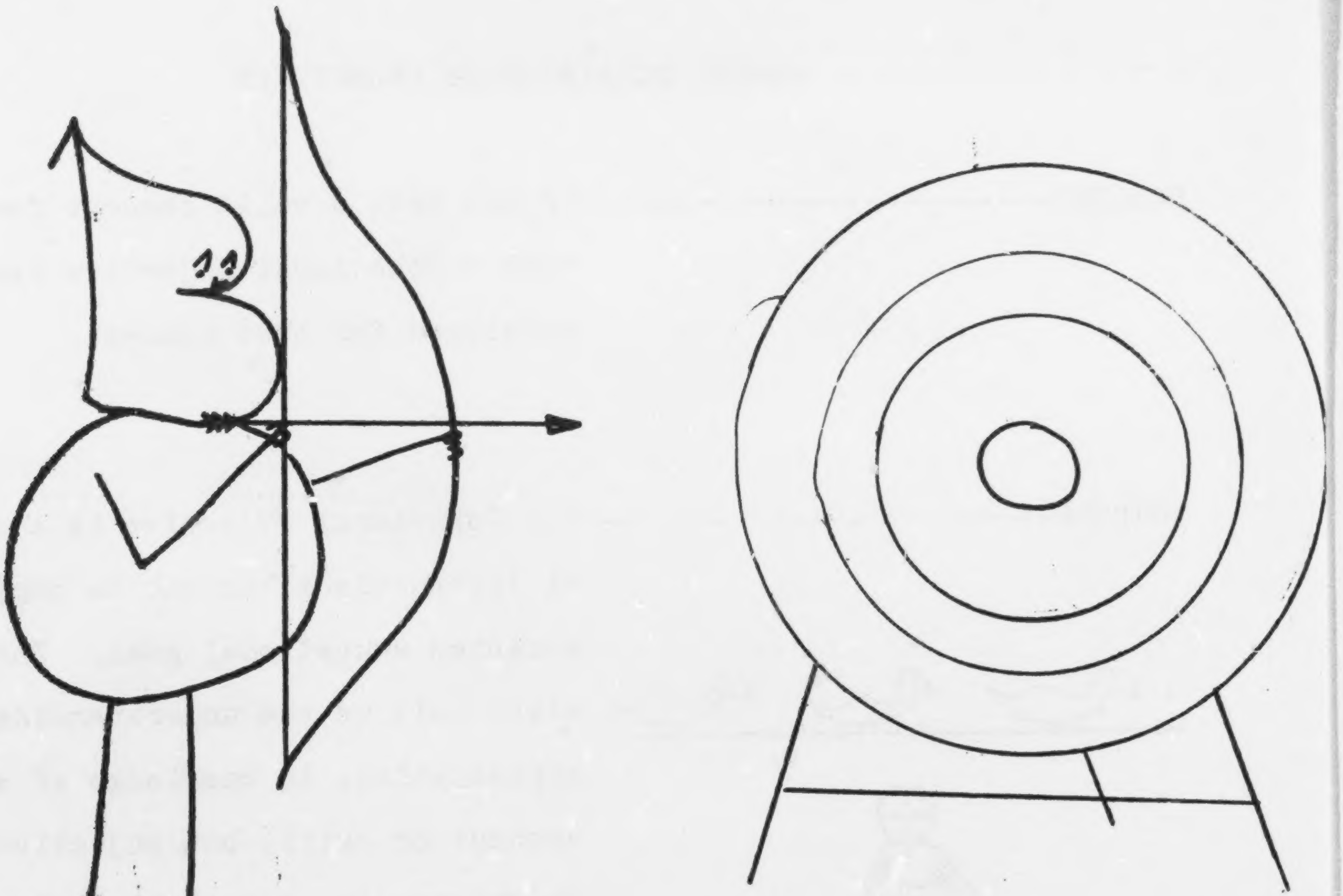
______ 3. "at an efficiency of 80%."

______ 4. "given twenty sentences in the nominative case..."

______ 5. "the proper court will be identified by the student..."

IV. Write a Behavioral Objective in the space below which calls for the identification of Republican Presidents from a list provided.

V. Write a Behavioral Objective in the space below which calls for the solving of division of fractions in an exercise.



SAMPLE DISCIPLINARY OBJECTIVES

LP #5

SAMPLE DISCIPLINARY OBJECTIVES

CONCEPT------------------------ If you have a valid concept for learning, then a Behavioral Objective can be developed for that concept.

PURPOSE------------------------ The Behavioral Objective is a statement of instructional intent to support an accepted educational goal. The goal might well be the understanding, appreciation, or knowledge of some concept or skill, but objectives must be written in more explicit terms than those just mentioned. Once a particular concept or skill is identified as acceptable to a learning program, then the teacher will be able to use a recommended structure and particular terminology to successfully produce a satisfactory behavioral objective for any discipline.

PRE-TEST------------------------

(SEE ORIENTATION SHEET #5)

BEHAVIORAL OBJECTIVE--------------

The student will select an educational goal, choose a concept or skill in support of that goal, then write a sound Behavioral Objective to bring about the desired behavior change, the accuracy level being 100% in this exercise.

SUB OBJECTIVES----------------

1. The student will construct three sample Behavioral Objectives for the disciplinary area he works with which fulfill all the qualifications for a sound objective at 100% accuracy.
2. Given a concept in his subject area, the student will write a sound objective for the concept to the satisfaction of the instructor.

LEARNING ACTIVITIES----------------

1. Individualized Instruction, op. cit., Brandau, Segment #5
2. Preparing Instruction Obj., op. cit., Mager Chap. 6
3. Developing Attitude Toward Learning, op. cit., Mager, Chap. 6
4. Audio Cassette tape #5 - "Sample Objectives"
5. Overhead Projector overlays - 5a, 5b, 5c, - Sample Objectives
6. Vimcet: "Defining Content for Objectives"
7. Workshop: Disciplinary Dept. Chairmen assistance
8. Staff Conference - Brandau
9. Group interaction plateau meeting

POST-TEST--------------------------

(See Instructor - Brandau)

ENRICHMENT-------------------------

1. Vimcet: Developing Affective Objectives
2. "Taxonomy of Educational Objectives" - Bloom Chap. 2

We have had an expanding program of orientation of the structure and development of sound **BEHAVIORAL OBJECTIVES** concerned with such things as **PERFORMANCE**, CONDITIONS, and ACCURACY en route.

NOW FOR

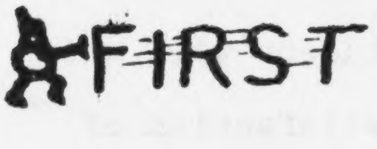
SAMPLE OBJECTIVES

You have had an opportunity to see examples of Behavioral Objectives in a number of disciplines in the previous segments.

IT IS NOW TIME TO GET TO YOUR SPHERE!

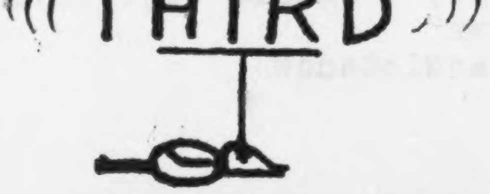
This lesson will concern itself with aiding the individual teacher to construct sample disciplinary objectives in his particular field. It is suggested that teachers group according to subject area to establish maximum interaction during this segment.

NOW....PROCEED AS FOLLOWS:



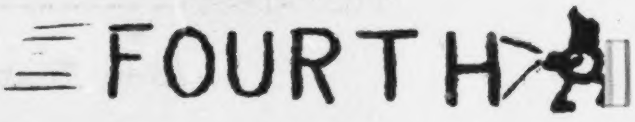
Each member decide upon a single concept that is undoubtedly necessary for the success of the student in your discipline. Make sure that it is a single, learnable idea or skill rather than a projected affective aim (Educational goal).

Determine what actions or behavior the student will engage in when he is mastering the learning of the indicated project. This is the target performance aimed at the achievement of the particular conceptual learning. We call it **PERFORMANCE.**



Develop restrictions which will limit the area of student activity to focus upon certain material, skills, machines, items, etc. Broad interpretations are usually not conducive to precise behavioral reactions. These restrictions have been referred to earlier as CONDITIONS.

Decide upon standards of achievement. A **word of caution is not to continually call for perfect or nearly perfect performance. on the part of the student. Allow for some error while mastery of the objective can still be achieved.** This is ACCURACY.



NOW WRITE IT IN SELECTED* ACTION WORDS - SET REALISTIC RESTRICTIONS -

DECIDE UPON A VALID ACHIEVEMENT LEVEL - CHECK IT WITH

A FRIEND.

SAMPLE OBJECTIVES

The development of Behavioral Objectives within the framework of the individual discipline becomes a personal matter for the teacher or teachers involved. It is recommended that teachers working on sample objectives do so in groups of three or four where close communication and critical evaluation can take place. We continue to emphasize the importance of relevant concepts when developing objectives, but in any case, be sure to adhere to the suggested structure of the objective so that characteristics of clarity and precision are included.

It is suggested that you start with a very simple conceptual item as a fact or skill that is primarily associated with your subject matter. Starting with the desired PERFORMANCE, decide what it is that you want the student to be able to master to show achievement over the concept. Follow the procedure of adding restrictive conditions to narrow the guidelines of communications to the student, and them complete the objective by establishing the level of ACCURACY that must be displayed for the student to successfully master the objective.

In later segments, we will investigate TAXONOMY to attempt to classify the level of learning associated with each objective , but for the present, try to develop samples that acceptable as part of the learning process in your subject area.

Below are several samples for your scurtiny:

"Given graph paper, a protractor, and a ruler, the student will construct an angle of 70° on the graph paper and bi-sect the angle at 100% accuracy."

"The student will construct eight lines of poetry on the theme Space Travel using a consistant rhyme scheme to the satisfaction of the instructor."

"Given a beaker and a thermometer, along with a bunsen burner, the student will discover and record the boiling point of alcohol to within 2 degrees of correctness above or below."

Look For: PERFORMANCE CONDITIONS ACCURACY

DISCUSS - DISAGREE - CRITICIZE

TRY IT!

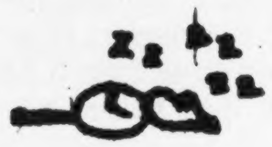
SAMPLE DISCIPLINARY BEHAVIORAL OBJECTIVES

REMEMBER!

A Behavioral Objective is a precise Statement of instructional intent that describes what the student will be doing as a desired outcome of the learning process.

Therefore, YOU decide what it is that you want the student to learn as an essential concept of your subject area, then simply write it in terms that can be measured by the behavior of the student (the actual performance).

WHAT DO YOU WANT THE STUDENT TO LEARN?



DO YOU WANT HIM TO.....

write a composition

solve an equation

invent a formula (that he doesn't know)

discover a theme in a play

list certain characteristics of a thing

identify differences between items

put in proper order a series of steps

??????????

If you can decide upon valid concepts to be learned, then you can state them in Behavioral Terms.

Do not expect students to "know", "understand", or "appreciate"

(These can't be measured)

Specify precise behavior that will indicate that the student is mastering the objective by the accuracy of his performance.

If you can decide upon valid concepts to be learned, then you can write them as Behavioral Objectives.
(op. cit.)

DO IT!

SELF EVALUATION

There are four steps associated with developing a sample behavioral objective in a given discipline. Name them:

It is said that there are advantages to having the teacher develop his or her own objectives rather than to deal in commercial products. Support or deny this statement.

List five valid concepts or skills that you feel are essential to your program and which you would like every student to leave your room having achieved mastery over.

a.____________________ b.____________________

c.____________________ d.____________________

e.____________________

Write five sample objectives surrounding the above concepts that you have listed. Be sure to include Performance, Conditions, and accuracy in your structure. Discuss these with the institute staff.

VERBAL

AND

MOTOR

OBJECTIVES

LP #6

VERBAL AND MOTOR OBJECTIVES

CONCEPT---------------------------- Written objectives fall into the of Verball or Motor Performance Objectives.

PURPOSE---------------------------- As the teacher develops objectives for his particular disciplinary field, it willdbe noted that objectives fall into different areas according to the type of response that is initated by the stimulus of the objective. The two areas are verbal and motor skills. It is extermely important that the teacher be aware of their purpose in formulating an objective as to whether they wixh to stimulate a verbal or motor response from the student. In many cases, teachers will call for a verbal response in a motor skill area and visa-versa.

PRE-TEST-------------------------

(SEE ORIENTATION SHEET #6)

BEHAVIORAL OBJCETIVE--------------

Given a list of ten statements, the student will identify the verbal objectives and the motor skill objectives by placing a V or an M before each statement, the level of [illegible] proficiency being 90%.

SUB OBJECTIVES----------------

1. Given a list of five intended outcomes to be measured, the student will differentiate the objectives to be used as verbal or motor for each by placing a V or an M beside the listing outcome at 100% accuracy.
2. The student will list three ways in which a verbal activity can be used to satisfy an objective at 100% accuracy.

LEARNING ACTIVITIES----------------

1. Individualized Instruction, op. cit., Brandau, Segment #6
2. Developing Vocational Instruction, Mager & Beach, Chap. 8
3. Audio Cassette tape - #6 Verbal & Motor Skill Objectives
4. Overhead Projector overlay - #6a, 6b - Verbal & Motor skills
5. Reprint: Deterline Verbal and Motor Skills
6. Staff Conference - Kaufman
7. Group interaction plateau meeting

POST-TEST------------------------

(See Instructor - Kaufman)

ENRICHMENT-----------------------

1. "Developing Attitude Toward Learning" Mager Chap 6
2. "Taxonomy of Educational Objectives" Bloom pp. 38-43

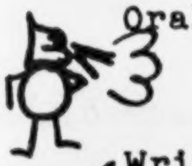
VERBAL AND MOTOR SKILL

In writing Behavioral Objectives, make sure that the objectives are calling for realistic responses in determining achievement.

OBJECTIVES ARE CATEFORIZED AS VERBAL OR MOTOR SKILLS

VERBAL

Verbal Objectives require written, spoken, or discriminatory responses.

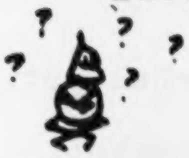


Oral

The student will recite in order.....
The student will quote ten passages....
The student will state the proper formula...

Written

The student will list five characteristics...
The student will write four lines of poetry....
The student will transcribe the taped data.....



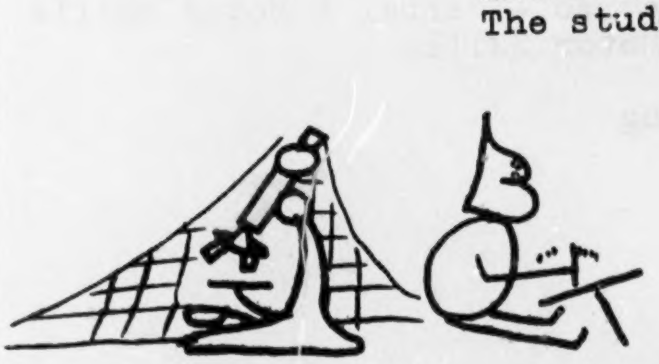
Discriminatory

The student will identify the major cases....
The student will select the sentences that.....
The student will compare three possible answers...

MOTOR

Motor Skills are used to carry out the required task by some form of manipulation or completion of a motor act. Although mental activity is prevelant, the sequential procedures often become rote such as the activities involved in the driving of an automobile.

The student will assemble the parts correctly....
The student will measure the diameter with a micrometer.
The student will adjust the temperature gauge....



Learn to associate the proper objective with the correct skill, verbal or motor. Be especially cautious about calling for the demonstration of a motor skill with a verbal response.

THINK ABOUT...

"The student will list the five steps necessary to adjust a microscope properly at 100% accuracy." (poor)

"The student will write a paragraph of at least 100 words discussing the fine points of public speaking."

?

VERBAL AND MOTOR PERFORMANCE OBJECTIVES

Verbal Skills

The ability to recite, write, or make mental selection and application are forms of verbal skills that are often incorporated into behavioral objectives. All forms start with a mental image of a concept which is then transferred into communicative speech or written words. At times on the higher level of the educational taxonomy, comparisons, selections, applications, and even inventions are examples of concepts that must be transferred into verbal performances such as speaking and writing.

When we are engaged in writing objectives, we must take particular care to correlate the proposed activity with the type of objective that is being presented. Consequently, if we wish to convey the mastery over certain concepts, we may ask the student to identify, differentiate, contrast, compare, apply, order, etc., these all being demonstrated by verbal skills of reciting or writing.

Motor Skills

Motor skills are the direct result of manipulative action. The adjustment of a microscope, the operation of a typewriter, the use of a tool, or the assembly of parts all involve mental activity that is developed as muscular motor activity. In most cases, a sequencing of events results in a complete motor skill where an activity is completed (planing a board). It is important in dealing with motor performance objectives that the teacher does not call for verbal performance to satisfy a motor objective.

Relevance

In writing Behavioral Objectives, it becomes extremely important to provide relevant objectives which adhere to the concept of measuring the intended behavior. Thus, testing the achievement of repairing a radio should not be done by written response, but rather by the actual motor performance required. Too often, we ask the student to respond in a manner that has little to do with the intended outcomes. (Many boys can replace spark plugs in a car by motor skill activity, but cannot recite or write the steps as a verbal response

VERBAL AND MOTOR SKILLS

We have been developing objectives with the main emphasis upon the PERFORMANCE of the student stated in terms that are measurable at the completion of the objective. We now add a new dimension:

VERBAL OBJECTIVES   MOTOR SKILL OBJECTIVES

The comcept of Verbal skill involves activities of speaking, writing and mentally discriminating.

Written responses require verbal development as mental activity even though the actual writing would be considered manipulation. However, in most cases, we are not testing for the motor skill of writing, but are concerned with the intellectual response that is being written. The writing of a response is similar to "saying it to yourself."

Spoken responses are true verbal actions as the mental activity becomes converted into verbal communication from the individual to others. In this sense, the student recites, states, quotes, etc. to convey mastery over certain concepts.

Discriminatory responses are the result of mental activity which produces a positive image that can be converted into a spoken or written response. The student will therefore distinguish differences, compare items, or identify features on the mental level before putting such responses into some sort of verbal communication (speaking, writing).

MOTOR SKILL OBJECTIVES

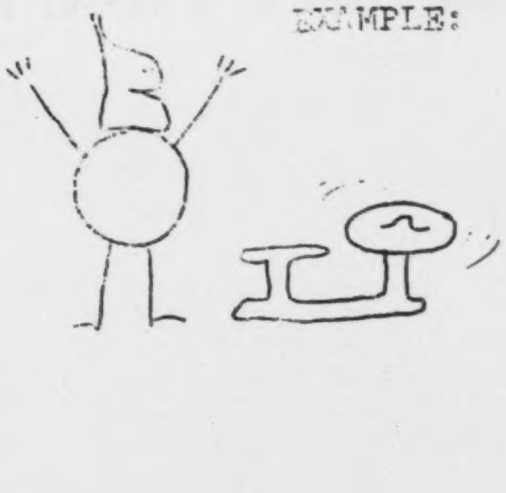
Motor skill objectives deal with manipulation of items as a result of ordering and sequencing on the mental level. Many of the motor skills become almost involuntary with great practice and allow the individual to carry on other mental activities at the same time (driving a car).

Basically a motor skill calls for a sequence of manipulations of a machine, tool, part, or system to assemble, repair, activate, or move. This includes individual muscular development in the case of physical education. Motor skills become extremely important in areas of Home Ec, Industrial Arts, Typing, Art, P.E. to name a few.

Care must be taken to avoid using verbal responses to test mastery of motor skills.

EXAMPLE: Given an amount of clay and a potters wheel, the student will turn a vase-shaped item 8" tall to the satisfaction of the instructor.

or



The student will describe in writing the five steps involved in turning a vase on the potters wheel at 100% accuracy.

RECOGNITION AND DEVELOPMENT OF THE VERBAL AND MOTOR OBJECTIVES

It is not difficult to determine whether a behavioral objective cal for verbal or motor skills. The objective itself should specify the terminal behavioral to be measured. At times, however, teachers te substitute one for the other with ineffective results.

For instance....

> "The student will write the six steps in order that must be taken to mount a piece of stock wood on the wood lathe at an achievement level of 100%.

This is a verbal objective, but it is being used to measure a motor skill. It would be far better for the instructor to ask the student to mount a piece of wood under visual inspection than to relate to i by verbal means.

IF WE ARE GOING TO MASTER MOTOR SKILLS, LET US DEMONSTRATE MASTERY WITH MOTOR OBJECTIVES.

Again....

> "The student will demonstrate three dismounts from the uneven parallel bars, the dismounts being of the student's own selection, to the satisfaction of the instructor."

WE HAVE DEMONSTRATED A MOTOR SKILL WITH A MOTOR PERFORMANCE OBJECTIVE.

LOOK AT THESE

An objective for mastery of good oral reporting techniques?

An objective for drawing a model to scale?

An objective to compare democracy with socialism?

An objective to gain mastery over the adjustment of a microsco

An objective which requires the identification of certain electronic transistors?

From the above list, you should be able to determine which are verba and which are motor performance skills. Be careful to analyze each objective to find what the intended behavior is that is to be measu If you wish to measure mastery over manipulation skills, make sure y use motor performance objectives.

Self Evaluation

1. From the statements below, determine whether they are verbal or motor skills by placing a V or an M in the space provided:

______ a. The student will select the proper noun.......

______ b. The student will write a paragraph.......

______ c. The student will shape the clay to a cup form.......

______ d. The student will select the proper tool.......

______ e. The student will recite a given poem using proper inflection.......

2. Which of the following is incorrectly used?

   a. The student will list the five steps necessary for proper adjustment of the microscope.......

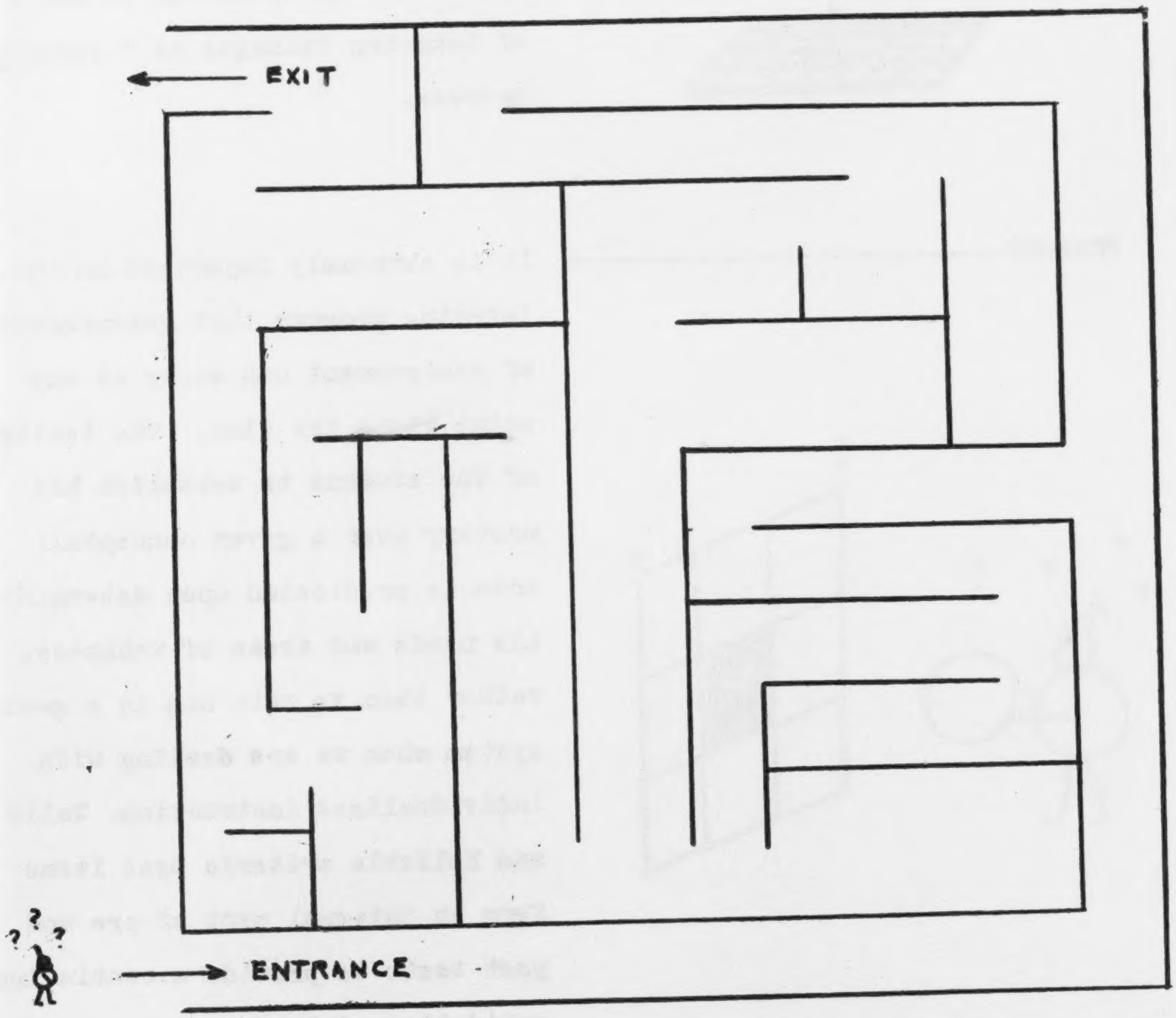
   b. The student will write a composition on the subject "animals" using the Palmer method of handwriting.......

   c. The student will bisect a 70° angle using a protractor.......

3. Write a motor objective (performance) for using a compass to draw circles.......

4. Write a verbal objective for preparing an outline.......

CRITERIA TEST ITEMS



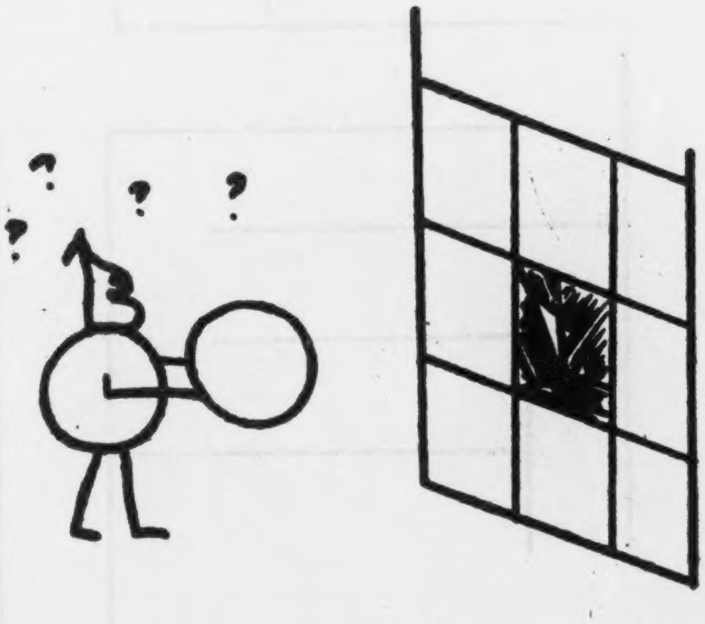
LP #7

CRITERIA TEST ITEMS

CONCEPT----------------------------

The construction of sound Criteria Test Items is essential to the use of Learning Packages as a learning process.

PURPOSE----------------------------



It is extremely important in the learning program that measurement of achievement can occur at any point along the line. The testing of the student to establish his mastery over a given conceptual area is predicated upon determining his needs and areas of weakness, rather than to rate him in a graded system when we are dealing with individualized instruction. Valid and Reliable criteria test items form an integral part of pre and post tests to provide a continuing validation of learning.

PRE-TEST---------------------------

(SEE ORIENTATION SHEET #7)

BEHAVIORAL OBJECTIVE------------

Given a sample disciplinary concept or skill, the student will write three criteria test items, each of different format, to test mastery over the given concept or skill, the level of achievement being 100%.

SUB OBJECTIVE------------

1. The student will write one criteria test item for each of the categories of verbal selection, verbal discrimination, and motor performance skill at 100% accuracy.

LEARNING ACTIVITIES-------------

1. "Preparing Instructional Objectives," Mager, Chap. 6
2. "Developing Vocational Instruction," Mager & Beach, Chap. 7
3. "Faculty Course in Educational Technology," Quinn, Chap. III
4. Individualized Instruction op. cit. Brandau, Segment #7
5. Audio-Cassette Tape #7 - "Criterion Tests"
6. Vimcet Filmstrip - "Establishing Performance Standards"
7. Vimcet Filmstrip - "Analyzing Learning Outcomes"
8. Overhead Projector overlays - #7a, 7b, Criteria Test Items
9. Staff Conference - O'Donnell
10. Group interaction plateau meeting

POST-TEST-------------

(See Instructor - O'Donnell)

ENRICHMENT-------------

1. Vimcet: "Evaluation"
2. Developing Attitude Toward Learning, Mager, Chap. 9

CRITERIA TEST ITEMS

An evaluation of the teacher's efforts is administration.......not learning

An evaluation of the student's progress is essential......

BUT NOT OVERBEARING!

If we are going to develop behaviorally-stated objectives that can be measured to fully determine the achievement of the student, then we must have some valid manner in which to test the results.

THIS BRINGS US TO CRITERIA TEST ITEMS

In formulating Criteria Test Items for a particular objective, there are two points that must be consistantly applied:

RELIABILITY

The Criteria Test Items must be reliable and consistant in the da they provide concerning the learning progress......

VALIDITY

The Criteria Test Items must be valid in that they are testing for a designed purpose.......

ALSO,...

The test items must be directly linked to the organization of the learning activities.....

The test items should be constructed to test verbal skills for verbal behavior and motor skills for motor behavior....

The test item should be correlated with the over-all desired behavioral outcomes and therefore fulfill the purpose of the learning......

THE TEST ITEMS SHOULD BE MEASURABLE....

Criterion tests provide a measurement of the actual achievement attained by the learner. Criteria test items must be developed for the construction of pre-tests and post-tests as an integral part o the Learning Package. It is through the criteria tests that we determine the areas that the student needs special work in.

In determining the final construction of the criteria test items, particular attention is given to the What, Why and How of the items to be used.

WHAT --- is your intent concerhing the selecte area of testing. Is it verbal or motor skill? Is it recall or inventic Does it correlate with the objective?

WHY --- is the criteria test being given? Are you attempting to evaluate the student against the group or to show his individual progress? Do you wish to determine mastery over the concepts involved? Are you attempting to determine areas of weakness to work on?

HOW --- are you going to gain the information you wish from the student? Should the test be objective or subjective? Would oral or motor demonstrations do just as well? Does the test test the individuals achievement or his ability to take tests?

CRITERION TESTS:

DEVELOPMENT

In developing criteria test items, caution should be taken to insure proper responses to the stimuli presented as well as the material being tested.

HERE ARE SOME HIGHLIGHTS---

CORRELATION ----	Test items should be correlated with the intended behavioral outcomes desired.
MEASUREMENT ----	Criteria test items are developed to measure the achievement of the prescribed instructional objectives.
OBJECTIVITY ----	The construction of the test item should not lead the student to answers. It is recommended that a different group construct the test than the group that constructed the objectives.
PURPOSE . - - - -	The test items should support the basic purpose of the behavieral objectives.

Is the test constructed to test individual difference or individual progress?

MEASUREMENT IS RELATIVE---

QUALITY IS ABSOLUTE ---

SELF - EVALUATION

1. The two most important aspects of sound criteria test items are the
   ______________________ and ______________________ of the items.

2. The construction of good criterion tests serves to improve the total
   learning procedures in a number of areas. Name three:

   a.

   b.

   c.

3. The basic design of the criterion test is subject to the influence of
   WHAT, WHY, and HOW. Discuss the relationship of each to the develo
   of the criterion test.

4. How would you test the student for mastery over the steps to be
   followed in developing a bludprint design?

5. How would you test the student for development of attitudes of g
   citizenship?

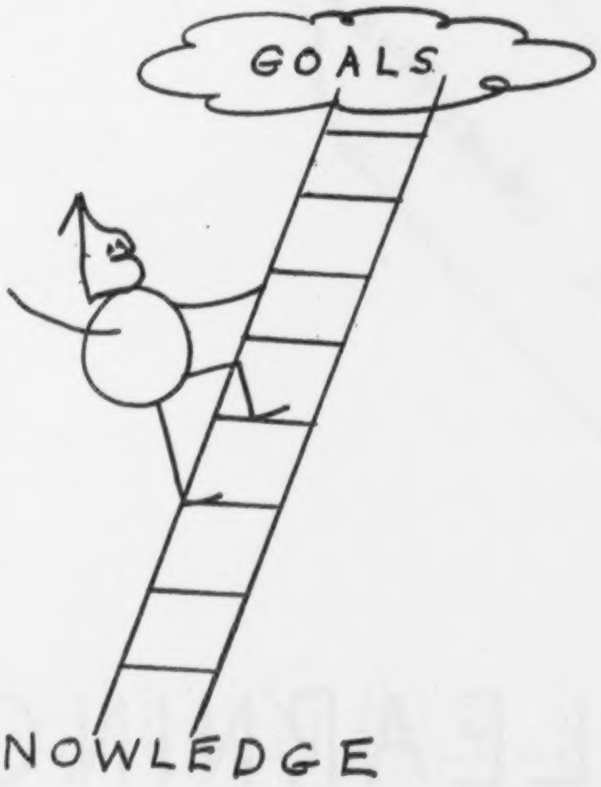
TAXONOMY OF THE LEARNING PROCESS

LP 8

TAXONOMY

CONCEPT---------------------------- Taxonomic application is a necessity in the upgrading of educational objectives for the general improvement of learning.

PURPOSE---------------------------- A traditional educational setting relied heavily upon pure recall for successful achievement. This type of rote learning provided little for the individual needs of the student. In addition, it stifled more complex intellectual responses based upon higher levels of the learning process. It is imperative that objectives be continually upgraded to stimulate more sophisticated intellectual activity on the part of the student to be meaningful and realistic in a learning environment. Taxonomic application is a method of continual reevaluation for education.



PRE-TEST----------------------------

(SEE ORIENTATION SHEET #8)

BEHAVIORAL OBJECTIVE----------

Given Esbensen's Taxonomic Scale, the student will construct a Behavioral Objective for each level in writing at 100% accuracy.

SUB OBJECTIVES-------------

1. The student will list the six levels of Blooms Taxonomy in writing at an achievement level of 100% accuracy.
2. The student will construct four Behavioral Objectives from a single concept, one for each level of Esbensen's Taxonomy, the achievement level being 100%.
3. The student will label correctly each of five objectives as to the proper taxonomic category at 100% accuracy.

LEARNING ACTIVITIES-------------

1. Individualized Instruction, op. cit., Brandau, Segment #8
2. Working With Individualized Instruction, Esbensen, pp. 10-14
3. Taxonomy of Educational Objectives, Cognitive Domain, Bloom, Chaps. 1,2, Appendix
4. Taxonomy of Educational Objectives, Affedtive Domain, Bloom, Appendix
5. Audio - Tape Cassette #8 "Taxonomy"
6. Overhead Projector Overlays - #8a, 8b - "Taxonomy"
7. Videotape #5 - "Taxonomy"
8. Staff Conference - Gilbert
9. Vimcet - "Identifying Affective Objectives"
10. Group interaction plateau meeting

POST TEST---------------------

(See Instructor - Gilbert)

ENRICHMENT--------------------

1. The New Social Studies, Fenton pp. 19-114; 497-514
2. Realms of Meaning, Phenix, Cahp. 21
3. The Analysis of Behavior, Holland and Skinner

TAXONOMY

The Taxonomy is the classification of educational goals or desired outcomes from the learning process. In precise terms, we are classifying the intended behavior to be displayed by the student as a result of participating in certain learning activities.

Bloom* has provided us with a six point taxonomy of some depth:

1.00 Knowledge
2.00 Comprehension
3.00 Application
4.00 Analysis
5.00 Synthesis
6.00 Evaluation

In keeping with our policy to maintain simplicity, we have adopted Esbensen's** Taxonomy which operates in four levels:

INVENTION	Discover, alter, construct an unknown structure
APPLICATION	selection and use to produce or alter a structure
COMPREHENSION	perception, identify and match, continue a pattern, recognize relationships
KNOWLEDGE	Recall, recognition, memory

Notice that the arrow goes upward. This indicates the complexity of the taxonomy from the lowest level (knowledge) to the highest (invention) in the Cognitive Domain.

TAXONOMY

The use of an educational taxonomy in the development of Behavioral Objectives and Learning Packets to utilize in a program of Individualized Instruction is a functional one. The Taxonomy as developed should not be an overburdening web of classification without relationship or direction.

The taxonomy is used to classify the intended behavior of the students as a result of the educational processes which have been conducted as learning activities. The use of the taxonomy is extremely valuable in developing educational objectives since it forces us to weigh the particular learning activities or educational objectives as we develop them, rather than as a testing device after they have been utilized in the program.

Although there is presently a great miriad of methods and activities associated with the learning process, all devoutly subscribed to by their respective authors, the taxonomy becomes a common bond as the classification scheme represents all types of educational goals to be categorized within its simple structure.

The taxonomy in use follows a logical line of development, it remains consistent in the scope of its level, and it is directly associated with the concept of desired outcomes in education.

Knowledge:	This level deals with basic recall and recognition. It provides no guarantees that the student "understands" the relationships of the material. The recall of facts is essential to all levels of the learning process, but the more accumulation of factual material is to be questioned.
Comprehension:	On this level, the student perceives relationships. He is able to categorize and relate, not by memory, but by completing patterns or matching equivalencies.
Application:	The student is able to apply a concept or formula to solve a particular problem. This involves selection and application of material. It is not a rote reaction.
Invention:	This category calls for the development of a structure or concept that is beyond the present awareness of the student. Therefore, the student may be asked to construct, develop, or produce something that exists beyond his knowledge even though it is part of knowledge itself. On this level, we must be willing to accept effort that does not achieve truth in every sense.

DEVELOPING OBJECTIVES WITHIN THE TAXONOMY

The use of the Taxonomy in the development of our Behavioral Objectives is to initiate learning outcomes which move away from simple recall or rote answers (knowledge), but instead call for more complex learning processes to be developed from the programmed learning activities. Examples of Behavioral Objectives on each level of the Cognitive Domain are shown below:

Knowledge:	The student will list ten (10) major battles of the Civil War which were considered as victories for the Union, the student being permitted only one error out of the ten.
Comprehension:	Given twenty (20) fractions, the student will identify those that can be reduced to lower terms by circling that fraction, and will then reduce each circled fraction to its lowest possible terms, this exercise being done at 90% accuracy.
Application:	Given a set of dimensional plans for the construction of a picture frame, the student will select the proper tools and complete the model to the satisfaction of the instructor.
Invention:	Given the concept of the expansion and contraction of metals because of changes of temperature, the student will develop a hypothesis in writing to accurately measure such change in relation to temperature to the satisfaction of the instructor.

The above are stimuli. They can be vastly improved upon. Can you take each objective and convert it into the other three levels? Try this activity in small groups using one of the above objectives.

PROGRESSIVE DEVELOPMENT OF THE LEVELS OF TAXONOMY

You have learned by Comprehension and Application that the higher you go on the Taxonomy scale, the more difficult it is to develop precise and measurable objectives to carry out your educational goals. In many instances, it is advisable to write a sound objective on the lowest level (knowledge) and then work to higher levels of the Taxonomy using the same concept as a base. Examples of this are provided below:

SCIENCE

K - The student will list in writing ten (10) phyla of the animal kingdom at 90% accuracy.

C - Given a list of twenty (20) animals, the student will identify those that are invertebrates by circling the invertebrates, the achievement level being 18 correct on this exercise.

A - Given ten diagrams of functional appendages of insects, the student will match these appendages with the proper species from a list provided at 90% accuracy.

I - Given ten different varieties of insects, and a tripod magnified for observation, the student will construct a taxonomy for the insects whereby they can be grouped and classified by structure to the satisfaction of the instructor.

SOCIAL STUDIES

K - Given a list of standing committees of the Congress of the United States, the student will circle the number next to those committees that are found only in the Senate at 100% accuracy.

C - Given a list of ten (10) Congressional committees, and a second list of ten bills to be introduced, the student will match each bill with a committee by placing a letter signifying the bill next to the committee, the accuracy prescribed being 90%.

A - Given the reference of Chairman of the Ways and Means Committee, the student will write the correct committee designation in the space provided next to each of ten bills listed, the accuracy being 90%.

I - Given the concept of a legislative body such as the House of Representatives, the student will construct a list of standing committees necessary to expedite the normal work load of such a body, to the satisfaction of the instructor.

MISC.

I - The student will demonstrate in writing a method or formula for measuring the distance across a river while being restricted to one side, achievement being to the satisfaction of the instructor.

I - Given the reference of the concept of a fence, the student will write a brief paragraph identifying several reasons why a fence must exist between people.

SELF EVALUATIVE TEST - TAXONOMY OF EDUCATION

1. The lowest level of learning in our educational taxonomy is____________.
2. "The student will construct his own hypothesis to find the solution to . . ."
   Would be an objective on what level of the taxonomy?____________________
3. The word perception is a key word in relating to the level of the learning taxonomy known as_______________________________.
4. Selecting and using a particular formula to solve a math problem would be classified as the__________________level of the taxonomy.
5. Write an objective in Behavioral Terms for each of the following levels of the taxonomy:

   A Knowledge:

   B Comprehension:

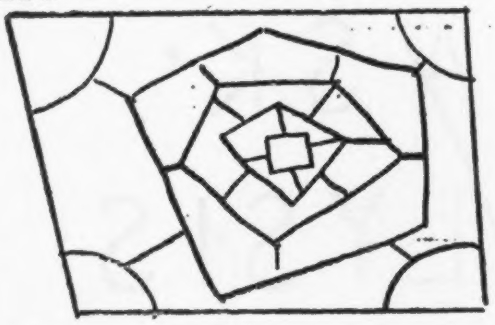
   C Application:

   D Invention:

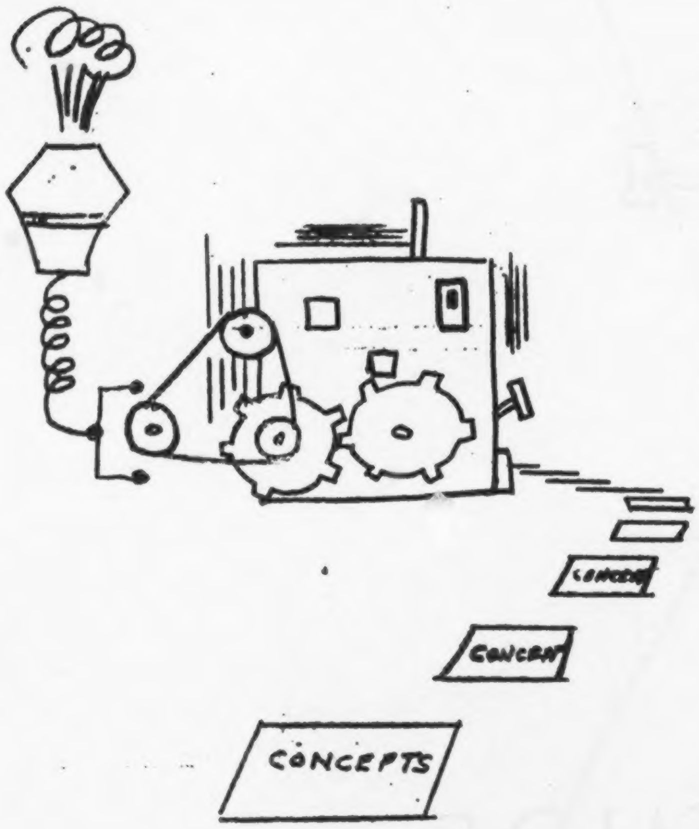
6. Justify in oral conversation with a colleague the need for a taxonomy of the learning processes as a method of classifying educational objectives and goals:

STRUCTURE OF THE TASK ANALYSIS

CONCEPT-------------------------- The structure of the Task Analysis provides for greater insight into the essential concepts of learning.



PURPOSE-------------------------- The Task Analysis is a systems mechanism designed to help the teacher to take a long hard look at the present classroom program in light of what should be learned, and how it should be learned. The Task Analysis provides criteria in its structiore whereby each teacher can develop a series of essential concepts that will formulate a realistic program of learning in a given discipline. Remember, if we have the concept, we can write the objective for it.



BEHAVIORAL OBJECTIVE--------------

Given the concept of the task analysis,, the student will construct a task analysis chart categorizing three essential concepts of their particular discipline to the satisfaction of a 3-man peer group.

SUB OBJECTIVE-----------

1. The student will list the three essentials used to measure concepts in the structure of a task analysis at 100% accuracy.

PRE-TEST---------------

(SEE ORIENTATION SHEET #9)

LEARNING ACTIVITIES------------

1. "Task Analysis - structure" - Orientation program - Brandau, Segment #9
2. "Developing Vocational Instruction" - Mager & Beach, Chap. 2, 3
3. "Developing Programmed Instructional Materials" Espich & Williams, Chap. 3, 4
4. "Preparing Instruction Objectives" Mager, Chap. 5
5. Audio-Tape Cassette #9 - "Task Analysis - Structure"
6. Overhead Projector overlays - 9a, 9b - Task Analysis
7. See Graphic display - overlay room bulletin board
8. Plateau group discussion - staff
9. Worksheet - Task Analysis Structure
10. Staff conference - Brandau

POST-TEST------------

(See Instructor - Brandau)

ENRICHMENT-------------

1. "Developing Vocational Instruction" - Mager & Beach, Chap. 5, 10, 12
2. "Developing Attitude Toward Learning" - Mager Chap. 6, 7, 8

TASK ANALYSIS: STRUCTURE

In Industry, a task is a related set of objectives which make up a particular job objective. Any specific job will usually involve a number of tasks which must be completed properly to reach the desired outcome.

In Education, the task analysis becomes a survey of the particular area of learning to determine the following items:

1. relevancy of the material
2. scope of the program
3. development of learning skills

If we relate tasks to educational objectives, then a first step in the development of a task analysis becomes the listing of all the terminal objectives associated with a given area of study.

In industry, the task analysis concerns itself with FREQUENCY OF PERFORMANCE, RELATIVE IMPORTANCE, and LEARNING DIFFICULTY.

In Education, we are concerned with:

1. WHAT should be learned
2. HOW it should be learned
3. to what DEGREE it should be learned

This leads us to several interesting observations:

1. Are we presenting a great amount of irrelevant material?
2. Are we relegating much time to unrealistic objectives?
3. Are we overlooking basic concepts and skills that are essential to our changing society?
4. Do we spend large amounts of time "teaching" material that the student already knows?
5. Do our objectives really fit the needs of the student?

An Educational Task Analysis commits us to a realistic program in terms of our objectives. It tends to reduce overlap. It specifies the most important concepts and skills of our subject area. It provides a definite idea of the amount of time to be allotted to the various objectives of our program.

THE STRUCTURAL APPLICATION OF THE TASK ANALYSIS

Education is currently being subjected to much criticism in terms of the effectiveness of its program on all levels. This criticism is most intense on the college and university level, but filters down into the ranks of the secondary and elementary schools.

The question arises: Are we really presenting concepts to students in our schools that are meaningful and necessary in terms of fruitful participation in tomorrows changing society?

"The student will be able to recite the first three stanzas of Masefield's 'Down to the Sea in Ships'".

or

"The student will be able to list ten major battles of the Revolutionary War."

or

"The student will be able to write every pronoun in the nominative case."

When we take a very careful look at some of the things we have included in our programs, it becomes evident that a general revamping of our objectives is necessary. This is the prime reason for the use of the Task Analysis.

Industry for some time has been interested in how they can make their training programs most efficient (time is money). The use of the Task Analysis provides industry with the proper answers in terms of what is important, what is difficult, and how much time to spend teaching certain concepts.

Isn't education in a similar situation? Shouldn't our programs reflect an analysis of the most important concepts to be learned by the student, how often they are utilized, and what allotment of school or class time should be programmed for them?

The structure of the Task Analysis demands that educational coordinators (teachers) develop programs which reflect meaningful and necessary concepts which provide real-life capacities for the students of today (citizens of tomorrow).

THE STRUCTURE OF A TASK ANALYSIS

A Task Analysis is predicated upon the listing of all the major concepts that should be included in a particular program. With each concept presented, we are asked to establish its relative importance, its frequency of occurrance, and its level of difficulty. Below is a sample chart which might be used to develop these characteristics:

ITEM	IMPORTANCE	FREQUENCY	DIFFICULTY
Concepts:			
(cognitive)			
(affective)			
(psychomotor)			

The Task Analysis separates items in its original structure into the three domains. You may also consider the area of Verbal and Motor skills in the task analysis. There will be a wide divergence in these areas between one discipline and another. As an example, certainly a greater emphasis would exist in Social Studies with Verbal skills than Wood Shop with psychomotor skills.

Understand that all three of the above items would be included in a particular area of study. The degree of importance to that area and the frequency of occurrance, however, would certainly vary with the subject area. We would not expect to load Industrial Arts with verbal skills while sacrificing motor skills. One of the strong points of the Task Analysis is that it indicates what items should receive the greater attention within the limitations of class time.

Take note that verbal and motor skills also fall into the category of conceptual learning. We seperate the domains in the original task analysis to provide more insight into the development of the objective.

The Structure of the Task Analysis includes the setting down of the items that are essential to the success of the subject in terms of intended behavior. It also specifies the importance, frequency, and difficulty level of these items. We are now ready for the developmental analysis of our subject area.

TASK ANALYSIS

RELEVANCE
FREQUENCY
DIFFICULTY

As educators, we are charged with the development of programs which wield a deep influence on the youth under our tutelage. Therefore, we must choose very carefully those objectives which will satisfy the needs of the individual in his adaptation to our adult society.

> We must first of all teach the learner to learn.
> He must develop skills and techniques that will enable him to seek out truth, wherever or in whatever form it may be.

The Task Analysis is a systematic approach to constructing, and at the same time evaluating, the terminal objectives of a particular subject or area of study. It forces us to weigh with extreme caution the terminal performance of the student eastablished by the concepts we have selected from our task analysis. Every educator should stand ready to defend his choice of intended behavior that will result from participation in his program.

ARE WE REALLY FULFILLING THE NEEDS OF THE STUDENT?

SELF EVALUATION

The Educational Task Analysis attempts to survey the particular area under consideration to determine three items:

a. ______________________________

b. ______________________________

c. ______________________________

Many pitfalls are avoided by the functional use of the Task Analysis:

a. ______________________________

b. ______________________________

c. ______________________________

The conceptual domains of learning are divided into two areas:

a. ______________________________

b. ______________________________

There are three criteria that we use to measure concepts and skills in the educational Task Analysis. Name them:

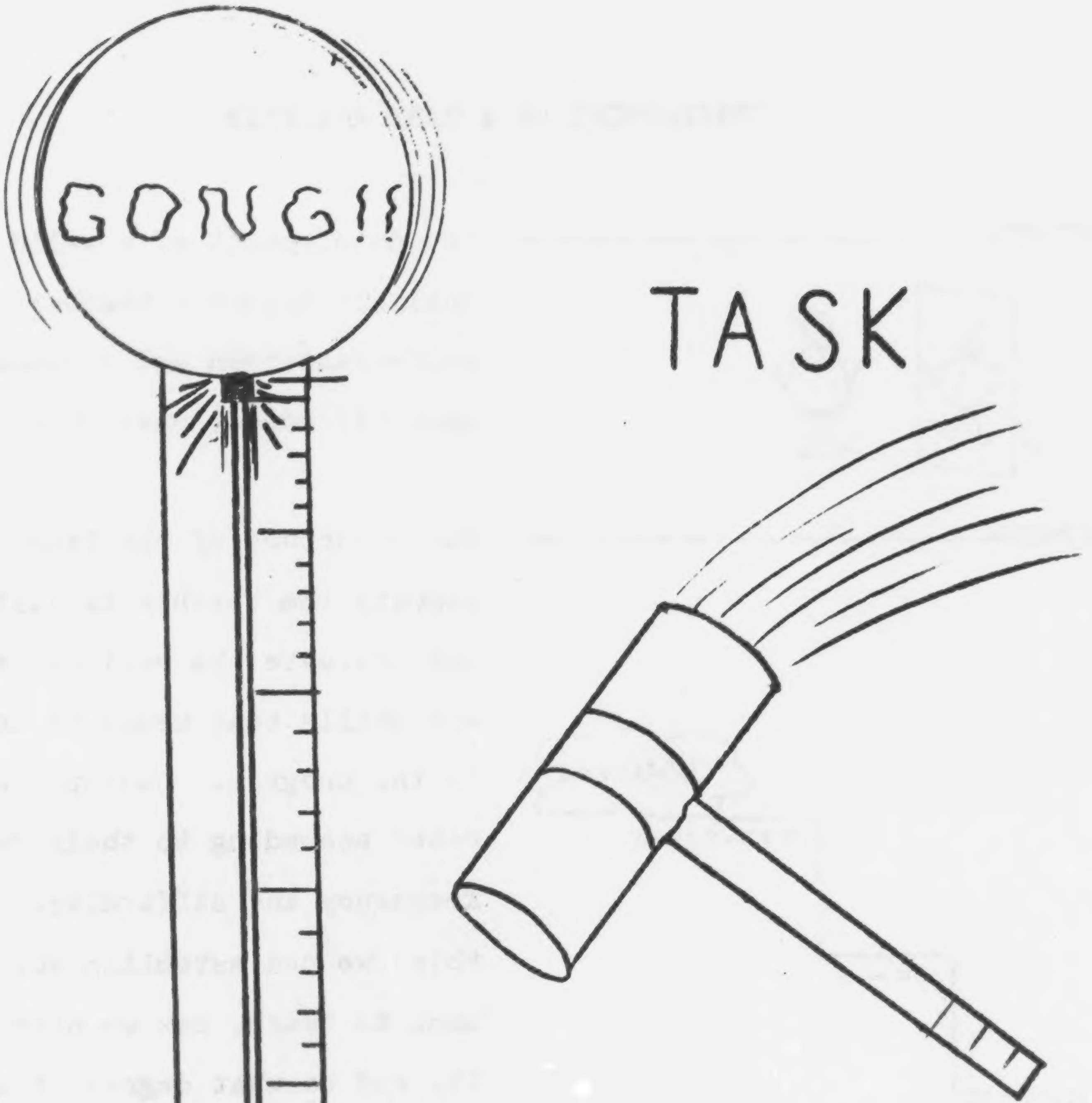
a. ______________________________

b. ______________________________

c. ______________________________

In earlier segments, you listed concepts for the development of disciplinary objectives. Apply these concepts to the pattern of the Task Analysis to see how they stand up under the suggested criteria. Discuss this with your department.

TASK ANALYSIS DEVELOPMENT

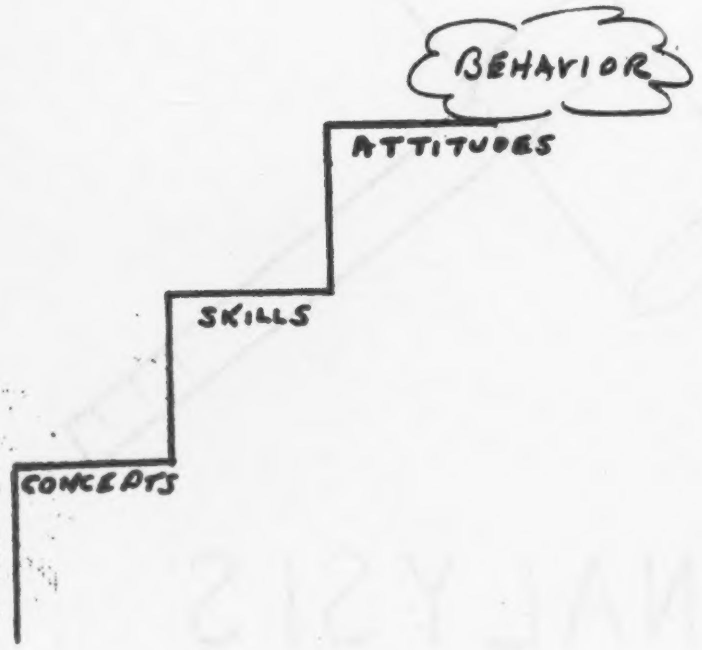


L. P. 10

DEVELOPMENT OF A TASK ANALYSIS

CONCEPT------------------------------ The development of a valid Task Analysis mandates teacher self-evaluation and a reassessment of specific educational objectives.

PURPOSE------------------------------ The structure of the Task Analysis permits the teacher to list and and evaluate the various concepts and skills that would be included in the program. Concepts are rated according to their relevance, frequency and difficulty. From this, we can establish what we want to teach, how we plan to teach it, and to what degree it should be taught. With the essential concepts developed from a valid task analysis, we are in a position to construct the terminal objectives of the program.



PRE-TEST------------------------------

(SEE ORIENTATION SHEET #10)

BEHAVIORAL OBJECTIVE...............

Given a valid Task Analysis the student will list at least 10 terminal objectives in support of the essential concepts and skills to be included in the course at 100% accuracy.

SUB OBJECTIVE.................
Given a Terminal Objective, the student will write two (2) interim objectives in support of the terminal objective at 100% accuracy.

PRE-TEST.........................

LEARNING ACTIVITIES.................

1. "Terminal and Interim objectives" - Orientation Program - Brandau Segment #11
2. "Developing Attitude Toward Learning", Mager, pp.
3. "Developing Vocational Instruction", Mager & Beach, pp.
4. Vimcet: "Selecting Appropriate Objectives", Mager, pp.
5. "Preparing Instructional Objectives", Mager, pp.
6. Overhead Projector over lays 11a, 11b. "Terminal Objectives"
7. Audio Cassette Tape #11 - "Terminal & Interim Objectives"
8. "Faculty Course in Educ. Tech." - Quinn, pp.
9. "Working with Individualized Instruct." Esbensen, pp.
10. Plateau Group - Terminal Objectives
11. Staff Conference - O'Donnell

POST-TEST.........................
(See Instructor - O'Donnell)

ENRICHMENT.........................

1. "Realms of Meaning" Phenix pp.
2. Vimcet: "Developing Affective Objectives"

TASK ANALYSIS: DEVELOPMENT

In constructing (you are being inventive!) a particular course or unit of study, we say that the learnable concepts can be identified by completing a Task Analysis.

Students are very often at the mercy of a "teacher's" strong points, or are subject only to the particular resource (textbook) available. This produces gap and fat areas in the program. This occurs because in most cases the teacher has not taken the time to identify the specific items that the students must perform at the end of the unit. The ultimate purpose of the Task Analysis is to identify such concepts!

Tuckman* states that an educational Goal is the capability of performing the kinds of tasks selected as the proper objectives. The goal of any particular unit of instruction is to get the students to successfully perform the behavioral objectives. Where do these Behavioral Objectives come from?

task analysis = concepts = behavior objectives

We found that the construction of the Task Analysis included the listing, evaluating, altering, constructing, changing, deleting, adding, scrutinizing, and accepting the CONCEPTS and SKILLS that should be a part of a given unit of study. When we have reached a point where a reasonable number of items are accepted as the structure of the unit, then we are ready to embark upon the actual development of the final Task Analysis.

CONCEPT { TERMINAL OBJECTIVE { INTERIM OBJECTIVE

From each valid concept, one or more terminal objectives are developed which will fortify that concept in terms of measurable behavior during or at the end of the unit of study. Each Terminal Objective will be accomplished through the development of solid Interim Objectives.

"WHAT SPECIFIC CONCEPTS DO I WANT EACH STUDENT TO PERFORM AT THE END OF THIS UNIT?"

DEVELOPING THE ACCEPTABLE TASK ANALYSIS

st the concepts that are essential to the student . . . . . .

using a form that
provides a clue to
the "essential" items
or the program . . . .

item	imp	fre	diff

. . . . . add and alter . . . . develop and delete . . . construct and cut

accept

now

. . .construct TERMINAL OBJECTIVES for each concept in quantity .

sufficient

to

bring

about

the

INTENDED BEHAVIOR

as an outcome of the unit

3. . . . . You will probably need several interim objectives to
satisfy each terminal objective. . . . . . Next time!

CONCEPT BUILDING BY TASK ANALYSIS

We are utilizing the Task Analysis to bring to our own attention those relevant concepts that are an essential part of a unit of study which will, in the final analysis, bring about the desired behavioral outcomes to fulfill our educational goals.

In the exercise below, we will follow the development of a single concept through the task analysis. Rember:

List....Detail....Evaluate.....Accept

Know the Labor Unions of the U.S. 2 2 1

Be Aware of the Differences Between
the AFL and CIO historically

Compare labor and Management today

Understand Collective Bargaining

We first call your attention to the fact that the revised concept was scored or rated as a 2 for importance, a 2 for frequency, and a 1 for level of difficulty. This is an early indication that it will be necessary to develop several terminal objectives to adequately convey this concept to the students, since there are apparent conceptual blocks which must be overcome by more than one behavioral objective to reach a full measure of understanding.

Notice also that the final concept as accepted attains the higher level of the taxonomy from knowledge (know the labor unions) to comprehension and application (understand Collective Bargaining).

Having reached the plateau of acceptance in the development of the Task Analysis, you are now ready to convert the accepted concept into one or more Terminal Objectives that are measurable in terms of the intended behavior of the student. Here are examples:

1. The student will list ten techniques of labor and ten techniques of management that are used to gain objectives in a dispute of 90% accuracy.

2. The student will write a paragraph of not more than 200 words identifying the term "mediation"2.

3. Given ten steps necessary to develop a signed contract between Labor and Management, the student will put the steps in sequential order and label them L for labor and M for management as to respective responsibility, the accuracy being 80%.

These are examples. Perhaps they fall short of the desired outcomes. Perhaps they fail to convey the concept thoroughly. We are in a constant state of evaluation. There is nothing evil about such a condition!

SELF EVALUATIVE TEST - TASK ANALYSIS

1. Substantiate your present program or subject in terms of necessary learning concepts for the student who must take his place in society (or become a professional student).

2. Name three items that should be considered about every concept included in your learning program.

3. Name one concept that you have been teaching which fulfills the following:

   Concept (cognitive domain) ____________________

   Concept (affective domain) ____________________

   Verbal Skill ____________________

   Motor Skill ____________________

4. Name one concept that you would delete from your program as a result of this lesson.

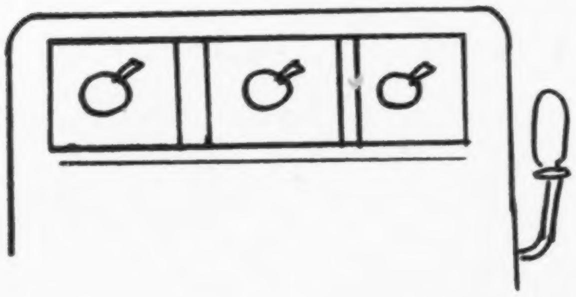
5. Name one skill development area which interfaces with another subject.

TERMINAL OBJECTIVES

L.P. 11

TERMINAL OBJECTIVES

CONCEPT.--------------------------- The identification of Terminal Objectives provides the basis for the development of a disciplinary program of learning.



PURPOSE-------------------------- Terminal Objectives are constructed to bring about certain "intended behavior" on the part of the student that is relevant and meaningful for the development of the individual and his needs. A true assessment of the relevance of concepts to be covered is completed in a valid task analysis. Once the task analysis is completed, the terminal objectives can be determined and written as performance objectives in instructional packages. Interim objectives will also be developed in support of the terminal objectives.

PRE-TEST------------------------

(SEE ORIENTATION SHEET #11)

BEHAVIORAL OBJECTIVE...............

Given a valid Task Analysis the student will list at least 10 terminal objectives in support of the essential concepts and skills to be included in the course at 100% accuracy.

SUB OBJECTIVE....................
Given a Terminal Objective, the student will write two (2) interim objectives in support of the terminal objective at 100% accuracy.

PRE-TEST...........................

LEARNING ACTIVITIES.................

1. "Terminal and Interim objectives" - Orientation Program - Brandau Segment #11
2. "Developing Attitude Toward Learning", Mager, pp.
3. "Developing Vocational Instruction", Mager & Beach, pp.
4. Vimcet: "Selecting Appropriate Objectives", Mager, pp.
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8. "Faculty Course in Educ. Tech." - Quinn, pp.
9. "Working with Individualized Instruct." Esbensen, pp.
10. Plateau Group - Terminal Objectives
11. Staff Conference - O'Donnell

POST-TEST...........................
(See Instructor - O'Donnell)

ENRICHMENT..........................

1. "Realms of Meaning" Phenix pp.
2. Vimcet: "Developing Affective Objectives"

A
small
beginning
of selecting a
number of essential
concepts to be included in
a particular unit of study shall
now be expanded and pyramid into a number
of

INTERIM OBJECTIVES

INTERIM OBJECTIVES are behaviorally stated objectives that call for certain performance by the student that is essential to the final intended behavior of the TERMINAL OBJECTIVE.

TERMINAL OBJECTIVES are developed from task analysis concepts.

INTERIM OBJECTIVES are developed in support of Terminal Objectives.

A Terminal Objective may be independent within itself:

> " The student will mount a piece of stock on the wood lathe correctly in preparation for the turning of a reproduced chair leg to the satisfaction of the instructor."

In this case, the mounting of the wood is the intended behavior of the student. Perhaps we should include more in the Terminal Objective, but for purposes of discussion we will accept it. Thus, the performance is complete within the scope of the one objective. Look further:

> "The student will complete a written report on a topic prescribed showing adequate reference, a correctness of form, and a progressive continuity providing clarity and concise information, the achievement level being the satisfaction of the instructor."

This objective will demand immediately certain supports in terms of interim objectives in order that the intended behavior of the student can be forthcoming. Nothing is worse than to ask the student to perform some action for which he has not the basic foundations. Therefore, it would be wise for us to support this objective with a number ofinterim objectives. Thus:

The student will construct an outline on a specific topic using a minimum of five references to the satisfaction of the instructor.

The student will write 3 footnotes of primary references using an acceptable form at 100% accuracy.

The student will list the five basic parts of a good written report at 100% accuracy.

None of these are terminal -- all of them are supporting.

DEVELOPMENT

of

INTERIM OBJECTIVES

The terminal objective describes the intended behavior that a student will perform at the end of a unit or course of study in support of a concept that is identified as essential to that unit.

EXAMPLE: Given a selection of a topic within the range of the student's awareness, the student will write a full page composition on that topic which has no more than 5 grammatical errors and which includes predetermined standards of achievement, the evaluation being left to the instructor. (English)

Here we have a terminal objective which calls upon the student to create certain ideas centered around a topic or theme and present these ideas in some orderly manner in written form. However, to accomplish such performance, the student will be forced to call upon other concepts or learnable ideas to fulfill the intended behavior successfully. These "other concepts" most often fall as interim objectives which act in support of the terminal objectives. Below are examples:

1. The student will list the five major characteristics of a well-structured composition at 100% accuracy.
2. Given a paragraph of fifty words, the student will circle all errors in capitalization contained in the paragraph at 90% accuracy.
3. Given a topic or theme for a written composition, the student will construct a topical outline to use as a basis for that topic, the finished outline being completed to the satisfaction of the instructor.
4. The student will identify errors of punctuation to be found in a paragraph of 100 words by circling misplaced and omitted punctuation marks with no more than 3 errors in this exercise.

Thus, four Interim Objectivs are used in support of the original terminal objective concerning the writing of an acceptable composition.

INTERIM OBJECTIVES

The road to desired terminal behavior is lined with supportive interim objectives which do not accomplish the intended outcomes in terms of desired mastery over certain concepts and skills, but which are a necessity to the full development of many of the terminal objectives.

EXAMPLE: In order to master the skillls involved in the operation of a wood lathe, not only must the student become fully aware of the various steps associated with mounting and turning the material, but he must also master interim items such as oiling the machine, recognizing the proper wood material, cutting to size for use, measuring before and after the specific job, and so on.

As you can see, the oiling, measuring, cutting, etc., are not examples of the explicit behavior that we wish to measure as the final terminal outcome. However, without the development of these interim items, the mastery of the terminal objectives might never be realized, or at least would be insufficient.

In providing a meaningful and realistic program of learning, it is essential to develop specific ideas of intended behavior or terminal outcomes. The teacher must always be careful, however, to be aware of the interim items which must be included as supportive to the achievement of the final objectives. In many cases, teachers make the mistake of assuming that students can handle certain complex objectives when they really do not have the basic knowledge and skills to make this happen.

EXAMPLES: Replacing defective parts in an electronic device without being able to read a schematic.

Writing poetry without an awareness of rhyme scheme or meter count.

Developing a scaled drawing without knowledge of dimensions or small scale measurement.

DEVELOPING INTERIM BEHAVIORAL OBJECTIVES

The number of interim objectives in support of a terminal objective will vary with each terminal objective. Some skill developing objectives are almost complete within themselves, while others demand a large number of associative skills to complete the terminal activity.

It is essential that the instructor look very carefully at the terminal objective to be sure that achievement can take place by the student based upon the experiences that the student can call upon at the particular level of progress the student has attained. It is rather ridiculus for a teacher to call upon the student to engage in behavior that is not within the scope of the individual's experience or development. And yet, this is done on many occasions. Usually, the student survives by seeking aid from father or mother if they can help. Sometimes the student just plain fails to achieve because we have demanded behavior on his part that is not within the framework of his development.

The careful development of interim objectives in support of the terminal activity is an integral part of the development of instructional learning packages to be used in an individualized program. Give explicit attention to this phase of the construction process. The pre-test is an outstanding indicator of the need for interim objectives.

EVALUATION

Given five statements, the student will identify the terminal objectives and interim objectives by placing a T or an I in the proper space at an accuracy of 100%.

1. ________ Given the necessary materials, the student will construct a collage representing the theme of Autumn to the satisfaction of the instructor.

2. ________ Given ten problems of division in decimal numbers, the student will place the decimal point in the proper place in the dividend at 100% accuracy.

3. ________ The student will list the five factors necessary to complete a proper bibliographical reference to be used in a research paper at 100% accuracy.

4. ________ The student will construct a scale drawing of a set of wooden bookends at ¼"-1" scale using three views of front, side and top, successful achievement being at the satisfaction of the instructor.

5. ________ The student will conjugate the verb "to be" in Spanish in person, case, and singular/plural at 100% accuracy.

Given the terminal objective "The student will complete a research paper on a selected topic not to exceed five pages double spaced typing with proper documentation and format in preparation for an oral report to the satisfaction of the instructor", the student will write fire interim objectives that would be necessary to support the stated terminal objective at 100% accuracy.

1.

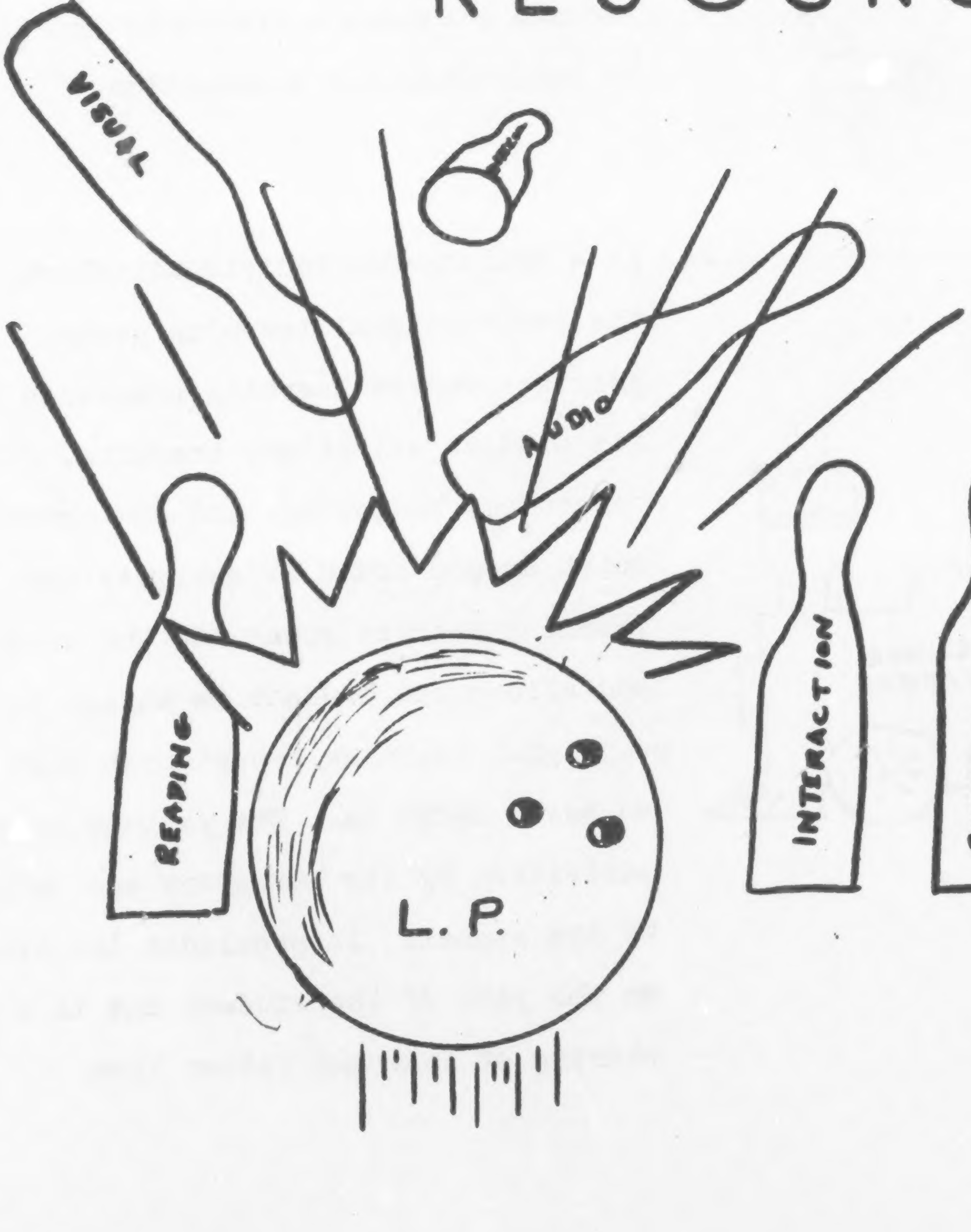
2.

3.

4.

5.

THE LEARNING PACKAGE RESOURCES

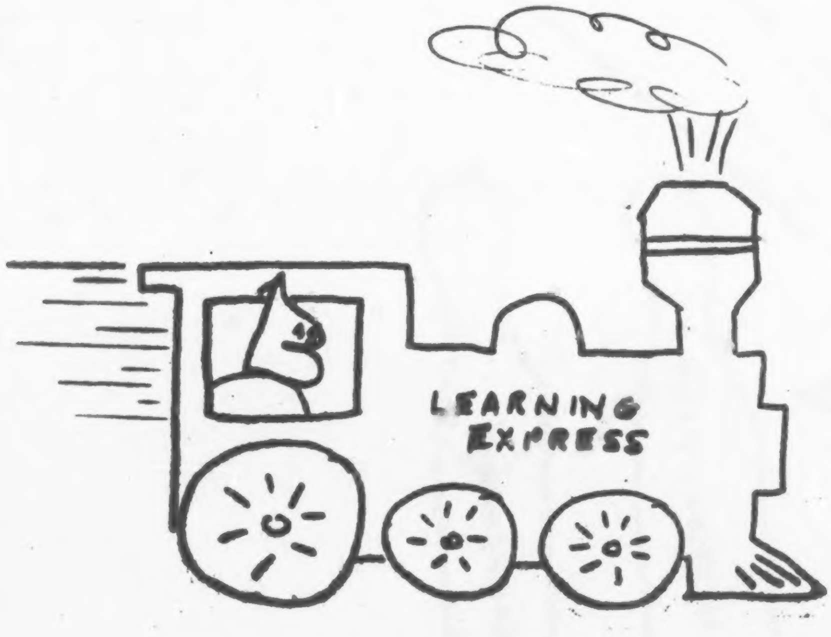


L.P. 12

LEARNING PACKAGE: RESOURCES

CONCEPT-------------------------- The construction of a sound Learning Package provides a realistic approach to individualized instruction.

PURPOSE-------------------------- As a vehicle for individualization, the instructional learning package provides varied learning processes for student selection, tracking, branching, budgeting, and enrichment. Built around sound objectives, the learning package speaks to the student and allows the student to engage in meaningful learning experiences that he has a stake in. The package provides motivation by its structure and initiat by its appeal. It precludes involvement on the part of the student and is a sharing of learning rather than



BEHAVIORAL OBJECTIVE......................

Given an essential concept derived from a valid task analysis in your disciplinary area, the student will construct a learning package utilizing the suggested format to the satisfaction of the institute staff.

SUB OBJECTIVES.........................

Given proper materials and hardware, the student will construct the following resources for a learning package to the satisfaction of the instructor:

1. an overlay
2. an audio tape
3. a graphic chart
4. a video-tape or photographic slide series format

PRE-TEST...........................

LEARNING ACTIVITIES..................

1. "Learning Package - Resources" - Orientation Program, Brandau Sec. #12
2. "Faculty Course in Educ. Tech.", Quinn Chap. VII
3. "Working with Individualized Instruct", Esbensen, Chap II, III, IV
4. "Developing a Unipac - Gladhorn (Reprint)
5. Audio Casette Tape #12 - "Learning Package"
6. Overhead Projector Overlay 12a, 12b - "L.P."
7. Plateau Group Interaction
8. Staff Conference - Kaufman

POST -TEST..........................
(See Instructor - Kaufman)

ENRICHMENT..........................

1. Student develop his Own L.P. with all Components
2. Review Sample L.P.'s on display

The core of a continuous learning curriculum is a series of instructional packages which are the learning vehicles that provide teaching-learning materials to develop a given concept.

A learning package is built around behaviorally stated objectives and includes a purpose, varied learning activities and enrichment.

THE LEARNING PACKAGE

CONCEPT
PURPOSE
OBJECTIVE
PRETEST
RESOURCES
POST-TEST
ENRICHMENT

The Learning Package should be:

Clear and Concise

There should be no confusion or misconception. The opportunity for interpretation should be very limited - the opportunity for learning should be unlimited.

Motivational

Speak the language that is meaningful. Gear the package for all students. Restrict the amount of writing - stimulate thinking.

Meaningful

The student must associate the learning with some useful facet of his existance.

Opportunistic

Give the student a chance to discover something for himself. Allow the student to learn by his route. Challenge the student to infinity.

In developing a learning package, the following format is suggested:

Concept Classification:

A short, concise statement or title of the concept or learnable item that is to be considered in the package.

EXAMPLE: The Addition of Whole Numbers
or
Viscosity of Fluids
or
Agreement of Nouns with the Antecedent

Purpose:

The purpose is the rationale to the student. It makes meaningful the objectives set before the student and states in very clear words the relationship of the objectives to the intended terminal behavior.

EXAMPLE: The addition of whole numbers is an important concept not only to many everyday activities such as the accounting of money, but is also vital to the development of more complex mathematical processes.

Behavioral Objective:

The actual measurable performance that is to be carried on by the student is precisely stated as a Behavioral Objective. A learning package may include more than one objective, but there should be a relationship between the ones included.

EXAMPLE: Given an assortment of twenty examples of three column whole numbers, the student will solve the problems by the addition process, the accuracy being 90% correct answers.

Pretest:
The pretest offers the opportunity for the student to determine those areas which he already knows, and those areas in which he needs additional fortification. It is not necessary for a student to restudy things that he already has learned sufficiently.

EXAMPLE:

$$\begin{array}{r} 369 \\ 247 \\ \underline{853} \end{array} \qquad \begin{array}{r} 963 \\ 482 \\ \underline{670} \end{array}$$

Learning Activities:

A series of resources used by the student to master the stated objectives. They should be varied by structure and complexity.

EXAMPLE:
1. Arithmetic and You, Bronson & Co., pp. 26-29
2. Filmstrip #78, Addition of Whole Numbers
3. Overlay frome B-5, Addition (file cabinet)
4. Adding By Whole Numbers, Video-tape Dial 14 (LRC 300)
5. Student work study sheet (attached)

LEARNING ACTIVITIES

The Resources used to fortify any behavioral objective should be varying in their complexity and their methodology.

Learning Activities should provide something for everyone.

The Resources of a learning package should allow the student to select a path to learning that will be appropriate to him and still satisfy the necessary achievement level.

One or two resources will hardly provide the proper diversity nor will they be acceptable stimuli for the broad cross-section of student population.

Is it possible for students to learn without following a prescribed path that we have set down?

TYPES OF RESOURCES

If your objective is to stand on the roof of the house, is it really necessary to use a ladder to reach the objective?

Can you shinny up the rainspout to get the same result?

How about walking upstairs to climb out a window?

If you parachuted onto the roof, would you be failing to achieve?

How about a Public Service repair truck bucket?

If the desired learning takes place, does it really matter what route the student uses to get there?

How about:

Reading Selections
Periodicals
Picture files
Audio tapes
Records
Microscope
Overlays
Projects
Visitation

Oral interview
Letter Writing
Graphic Charts
Bulletin Boards
Film Loops
Models
Skits
Experiments
Group interaction

Television
Films
Videotapes
Slides
Field Trip
Lab Equip
Simulations
Resource person
Teacher presentation

And so on

ROUTES TO LEARNING BASED UPON STUDENT SELECTION

Concepts, skills and attitudes are learnable when they are expressed in terms that are understandable to the learner.

Considering the individual differences that exist within the framework of a typical classroom, it becomes necessary to provide learning activities that fulfill the needs of the cross-section of the student population.

It is suggested that a Learning Package pledged to the satisfactory achievement of the students in terms of desirable outcomes offer several routes for the student to select and develop for his successful achievement.

Consider these categories of Learning Activities:

Reading
This category includes pertinent reading selections from textbooks, multi-text, library references, supplemental fiction and non-fiction, pamphlets, documents, letters, etc. Included should be levels of reading difficulty for high and low readers.

Visuals
This includes overlays, slides, films, single-concept film loops, picture files, charts, diagrams, graphs, video-tapes, etc. Visuals can be self-determining or be related to other material. These materials should be available for individual study at any time.

Audio
Any listening device whereby the student can assimilate information or stimulus. Audio learning activities center around the use of listening tapes or records provided as resources for the concepts under study. This is an excellent way to reinforce reading, visual, or verbal activities. Audio tapes are easily developed by the teacher.

Verbal
This broad category includes teacher presentations, small and large group discussion, question and answer sessions, visiting resource people, interview techniques, and other activities that call upon oral conversation for the development of learnable concepts. Using peer level interaction as a basis, it is one of the most effective methods of learning.

Route #1
Periodical reading - Resource person - Experiment/project

Route #2
Text reading - overlay - group interaction

Route #3
Filmstrip - graphic chart - low reading - teacher presentati

EVALUATION

For a simple behavioral objective in your discipline, write a series of learning activities or resources which will provide several routes of learning for the student to select at his own discretion.

Among your resources, include the following:

At least one reading reference for the high ability

At least one reading reference for the low ability

Two or more reading references supplemental to the concept

Two or more visual resources

One or more audio resources

Two or more verbal activities

At least three activities that every student can use

LEARNING ACTIVITIES

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

ENRICHMENT

Think about the student who wishes to pursue a particular concept into greater depth on his own volition. Don't shut him out. Either provide depth study opportunity (quest) or let the student develop additional objectives to pursue himself with your approval.

APPENDIX E-1, E-2, E-3

APPENDIX E-1

TEACHER INSTITUTE

Willingboro Memorial Jr. High School
Summer - 1969

PROGRAM FORMAT

July 21 - August 1	Participants involved in individualized approach to developing behavioral objectives and learning packages.
August 4 - August 8	Development of instructional packages and planning for implementation of a program in the home district. Schedule of resource guests to present materials.

Individualized Procedures:

Participant learning package

- written lesson
- audio tape
- overlays
- duplicated material
- vimcet segments
- graphic materials
- video tape
- films

Participant group interaction (plateau)

Formal staff presentations (plateau)

Individual developmental sessions (staff)

Daily schedule:

9:00 a. m.	arrival
9:00 a. m.	formal presentation (film, slides, lecture)
10:00 a. m.	individualized procedures (staff help)
12:00	lunch
1:00 p. m.	Plateau groups presentation
1:30 p. m.	individualization
2:30 p. m.	plateau groups interact
3:00 p. m.	special problems session

Field trips were scheduled on several afternoons during the program.

APPENDIX E-2

FOLLOW-UP SURVEY FOR WILLINGBORO SUMMER WORKSHOP ON BEHAVIORAL OBJECTIVES AND LEARNING PACKETS

NAME:______________________________ POSITION______________________

SCHOOL OR DISTRICT:____

ADDRESS____

DIRECTIONS: Please complete this survey and return it in the stamped, addressed envelope enclosed. Use the reverse side of the paper if your statements cannot fit in the space provided.

For all items which apply, please check those to whom you made a presentation concerning the Workshop and its ideas.

_____total faculty _____superintendent _____principal

_____department _____some colleagues _____P.T.A.

_____newspapers _____no one _____others(please specify)

____

2. If there is a program established on behavioral objectives and learning packets.....

   a. is it for certain departments? _____List them:

   ____

   b. is it for the total staff of one school?_____

   c. is it for the total district?_____

   d. how many people are involved?_____

   e. what kinds of people are participating?

   _____teachers _____supervisors _____parents

   _____administrators

3. If there is no in-service program at present, are there plans to start one?

   _____yes _____no

3a. If you checked "yes," please write in date program is expected to start________________________.

4. Are you making use, or do you plan to make use, of the packets and segments developed for your instruction in the summer Workshop?

_____yes _____no

5. Have you personally developed additional packets since returning to work?

_____yes _____no

5a. If yes, how many?________________

5b. In what area(s)?__________________ __________________

________________ __________________ ____________________

5c. Would you be willing to share your packets with other districts if you receive packets from them?

_______yes ______no

6. Are others in your school or district developing packets?

_______yes ______no

6a. If yes, how many others?__________

6b. In what area(s)?__________________ __________________

________________ _________________ __________________

6c. Would these teachers be willing to share with other districts?

_____yes _____no

7. Has a scope and sequence of concepts been developed in any of the disciplines?

_____yes _____no

7a. If yes, what area(s)?______________ ________________

________________ ________________ ________________

7b. Who worked on the development? (check all which apply)

____all teacher ____outside consultant ____committee

____district specialist ____others(please specify)

____

8. Is your district doing, or planning to do, a task analysis to direct curriculum revision efforts?

_____yes _____no

9. If you are using packets in the classroom, or are supervising those who use them, what has been the student reaction to date?

____enthusiastic ____bored

____undetermined at present ____indifferent

____other (please specify)________________________________

10. If you are using packets in the classroom, how has their use affected your teaching? (Check all which apply)

____no change from previous years

____greater individualization possible

____greater and more accurate diagnosis of student learning needs

____greater flexibility and interest in prescribing learning activities relevant to student needs

____more relevant evaluation of student achievement

____others (please specify)________________________________

____

11. Please list below any problems you encountered in your school or district in introducing the concept of individualizing instruction through the creation and use of behavioral objectives and learning packets. Also comment on successful produres used to overcome obstacles.

12. Please list below any problems you have encountered in using packets in the classroom. If you are a supervisor, please write about those problems you have observed or were brought to your attention by staff members. Also comment on any successful strategies used to overcome obstacles.

13. Now that some time has elapsed since the Workshop, do you have any further suggestions for improving the materials and/or procedures for any future workshops?

14. Please make any additional comments or suggestions concerning the areas questioned above and/or areas not covered in the Survey.

APPENDIX E-3

ANALYSIS OF PARTICIPANT REPSONSES TO FOLLOW-UP SURVEY
(Based upon 22 responses)

1. Presentation in Home District?	
to administration	38%
to faculty	32%
to department	41%
2. Presnt In-Service program?	
for department	41%
for total staff	14%
for district	18%
3. Plans to start In-Service Program?	
Yes	63%
No	---
4. Continued Use of Institute Materials?	
Yes	67%
No	---
5. Additional Learning Package Development?	
Yes	32%
No	32%
6. Others Developing Packages?	
Yes	63%
No	14%
7. Scope and Sequence of Concepts Developed?	
Yes	38%
No	38%
8. Task Analysis Completed?	
Yes	52%
No	14%
9. *Student Reaction to Learning Packages?	
enthusiastic	32%
undetermined	23%
bored	14%
10. *Effect of Learning Packages on teaching?	
no change	---
greater individualization	45%
accurate diagnosis of student needs	50%
greater flexibility	50%
more relevant evaluation	41%

* If Learning Packages were not being used, there were no responses to items 9 and 10.

APPENDIX F

MASS MEDIA AND INDIVIDUALIZED INSTRUCTION

The outline of a presentation by Dr. Richard H. Bell,
then of Ampex Corporation, on August 8, 1969, at
"An Institute and Program Designed to Train Voca-
tional Education and Academic Teachers for the
Development of Performance Objectives"
Willingboro Public Schools, Willingboro, New Jersey

I. INTRODUCTION

Basic assumption that individualized instruction and mass media are closely and inextricably related.

II. WHAT ARE THE CHARACTERISTICS OF INDIVIDUALIZED INSTRUCTION?

A. Pupils have a responsibility to learn; teachers have a responsibility to make learning material available to the learner at the appropriate times.

B. Learner and learning material are put into direct inter-action, often without a teacher present to mediate between them.

C. The material must be readily available to the learner -- in a sequential design -- when he is ready for it.

D. Learning Materials must be appropriate to the learner in terms of:

1. Pace of instruction
2. Level of difficulty
3. Relevance -- as seen by the pupil
4. Pupil's areas of interest
5. Individual learning style of the pupil

For the accomplishment of this, there must be a large and varied amount of material -- more so than in today's educational system.

E. Individualized instruction changes the role of the teacher from a dispenser of information to manager of learning situations -- so does the integrated use of media in education.

F. Only if these premises are accepted can we either truly individualize instruction or truly use media effectively in the teaching-learning process.

III. HOW DO MASS MEDIA RELATE TO INDIVIDUALIZED INSTRUCTION?

A. Historically, we had individualized instruction when we had few learners. With the increase in the number of learners, without a proportionate increase in information-disseminating teachers, we went to mass education. With instructional technology providing the means of presenting information on call, we can go back to a more individualized type of instruction.

B. Instructional Technology has been erroneously seen as:

1. Synonymous with the "mass media" of radio, TV and films.
2. An enrichment device which the teacher can use or disregard with no adverse affect on education.
3. A replacement for the teacher, a means of doing better what the teacher should not be doing at all -- ladling out facts.

C. As a result of these misconceptions -- media have been either poorly used, or not used at all. Essentially, the addition of a new technology cannot be used with maximum effectiveness unless we are willing to make some fundamental changes in the nature and structure of our schools.

If we were willing to start to design education anew, with the present tools at our command, what would be needed?

IV. EQUIPMENT FOR INDIVIDUALIZED INSTRUCTION

A. New models of many types of mass communication equipment are well designed for individualized instruction:

Mass Education Equipment	Individualized Instruction Equipment
From 16 mm film projectors have developed	8 mm cartridge film projectors Super 8 cartridge film projectors
broadcast radio	audio cassettes random access audio systems
broadcast television	portable videotape equipment video cassettes (in the future)
school telecasts	video random access systems cable systems with video material available at the demand of the user
computers	Computer Assisted Instruction in the future. Computer-Based Education now.

V. LEARNING MATERIALS FOR INDIVIDUALIZED INSTRUCTION

For the most part they are sadly lacking. There are media libraries of various kinds available --

A. Three Hundred audio tape libraries in the United States, but the heart of these collections are programs for broadcast schools of the air, and are aimed at group instruction, not individual.

B. Four major videotape libraries, but they are designed for group instruction, and are stimulus (studio teacher) oriented rather than response (learner) oriented. For the most part they exist as series, rather than as learning units.

C. Educational film collections -- 16 mm, 8 mm and super 8 mm exist in fair abundance. Designed for teacher mediation, they deal with individual topics, but rarely provide a sequential systematic development of a topic for flexible individualized instruction.

D. Computer Assisted Instruction. Has possibilities, but not a significant amount of valid software instructional software available, and that which is available is still prohibitively expensive.

E. Print materials. Books still provide some elements of individualized instruction, but they do not adapt to the individual. The present problems for the culturally deprived, whose lack of success in school is due largely to lack of verbal literacy. Need for flexible collections of materials in Text Boxes instead of text books. Some efforts in this direction -- Ontario Department of Education's "History in a Box;" Child Structured Learning in Science.

To be used in individualized instruction, learning materials must be validated through testing of behavioral objectives.

To produce the needed materials of this calibre will be expensive. Per pupil costfor materials was \$3-4 per book; it is now \$5-10; in the future it may be \$20-30 per pupil per course. Such costs will occur in a period of squeeze between leveling off of public support, rising teachers salaries. Individualized instruction materials may get squeezed out unless great value is placed on them at national state, and local levels.

VI. NEW TEACHERS FOR INDIVIDUALIZED INSTRUCTION

A. The teacher cannot remain a disseminator of information; he must become the manager of a learning situation. The demands of both media and individualized instruction call for this change.

B. We need two kind of educators --

1. Great presenters to prepare learning materials, make presentations through tape, film, and other media channels.

2. Great inter-actors to work with learners, drawing out their ability to learn and participate.

Skills in these two areas rarely exist in the same teacher, and it is time we allowed for individual differences in teachers as well as in pupils. Let each type of teacher do that which he does best, but create no star system. The inter-actor is as important a teacher as the presenter.

C. There is hope that teachers will be willing to accept this role, since many of them realize that their most important task in education is not the dissemination of information. Hence, they may accept the idea of being re-placed, but not replaced by media in the educational enterprise.

D. In individualized instruction, only the teacher can provide the individualized love and caring that is lacking in so much education today.

VII. A CONCLUDING CAUTION

A. Technology is not neutral. It tends to shape our values. Efficiency and immediacy were not much prized in our world until technology made them possible. Then they became values of our society.

B. Individualized instruction is one way in which we can use modern educational technology to achieve humanistic goals. If individualized instruction is important, it is because individuals are important, and the teacher must be alert to maintain humanism and support individualism in a mechanistic and conformist society.

C. Methods are not enough, and the media man cannot abdicate responsibility for goals by saying that the teacher is a "methods person." A. N. Whitehead once said, "Some of the world's worst evils are brought about by men with good methods." Today's educator must help shape the goals of education. So -- it's up to you.

FINAL REPORT
Project No. 9-0538
Grant No. OEG-0-9-400538-4586 (010)

PART II

AN INSTITUTE PROGRAM DESIGNED TO TRAIN VOCATIONAL EDUCATION AND ACADEMIC TEACHERS FOR THE DEVELOPMENT OF PERFORMANCE OBJECTIVES

Thomas S. Dietz
Willingboro Public Schools
Willingboro, New Jersey 08046

February 1971

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
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The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

SUMMARY

The principal activities of this workshop revolved around the following questions:

1. What should be the role of the ES'70 Coordinator when implementing the use of learning packages ?

2. What sorts of activities are within his rightful role ?

3. How can he achieve the status and "power" he needs to achieve change and develop a staff with a new staff.

4. What sort of a vehicle is necessary to effect change and implement the interdisciplinary methodology.

The workshop participants were divided into groups A., B., and C. which rotated between group leaders. In order to get a more objective view of his own position each participant was assigned a role which he played in each group and with the revolving group leadership. The charge given to each individual was based upon the above questions. "Given your present situation, the hierarchy of power within which you work, the demands of the State Department of Education and the community, you are to prepare three methods for the implementation of change within your district. This must be cost free. If two of the three methods are accepted by the administration and board you may be considered successful in your efforts with the administration. If, when you attempt to implement your two methods one seems to be workable with the staff and building administrator you will be assumed an effective change agent. List the changes in your own behavior and the changes that occurred in the behavior of your colleagues. Outline the product of the change."

This difficult task was approached and the participants in their evaluations evidenced a changed feeling for their roles and a deeper appreciation of the problems of change agentry.

In role playing each change agent was able to see himself as in a mirror image. He began to perceive his nearness which was a result of dedication and to take into consideration feelings for others with different responsibilities and roles. The most pronounced change in behavior was when each allowed the participants to consider a broader base for his perception and forced him to behave in a much less parochial manner. He saw himself and others more as a team and altered his personal behavior for the good of the whole rather than a narrow viewpoint.

CHAPTER I

INTRODUCTION

Individuals who attempt to change a curriculum and methodology in our high schools are confronted with many time-honored constraints. A partial listing would include administrative attitude, teacher attitude, teachers feeling of status, the mechanics of scheduling, student feelings toward the professional staff, and the expectations of the community.

The lone change agent in such a school must be a diplomat an educator, and a creative human being, yet even if he is all of these things he needs a method for change. He needs a direction. He needs to investigate and ascertain his position within the system he works. He needs to know just how far and how fast he can proceed.

Research has been done in the area by many groups. One of the outstanding contributions comes from the Northwestern Regional Laboratories and is published as RUPS - Research Utilization in Problem Solving. In addition, the Southwestern Regional Laboratories has been active in this area. Workshops of various design have been created on local and regional levels but few deal with basic changes envisioned by the concept of ES'70. Therefore, this two-day workshop was appropriate and designed for the special needs of ES'70 personnel.

The purposes and objectives of this institute were:

1. To investigate the role of the change agent and the implementation of the use of learning packages.

2. To create an environment for staff development which would result in a new philosophic base or stance for the staff which would help implement change.

3. To work toward the ultimate objective of instituting the interdisciplinary approach in the learning packages.

The bald statement of these purposes and objectives does nothing to enhance them. Therefore, the general plan was to create a different atmosphere for the participants by utilizing role playing techniques. Each participant was assigned a role generally in opposition to his normal role in the school system and was asked to play this role throughout the institute. Further than this, the participants were divided into groups which rotated between three group leaders. The groups were led in turn by consultants who were:

- experts in change agentry
- practitioners of the individualizing system which uses learning packages
- change agents and writers who are concerned with the interdisciplinary goals

Therefore, each group in turn was exposed to the implementation of learning packages, staff development, and the interdisciplinary methodology. Each spoke from his role as he played his part in the groups which was a process of clarification as to who, what, when, where, and why.

The institute was held March 25th and 26th, 1970 at the Institute of American Indian Arts, in Santa Fe, New Mexico in conjunction with an ES'70 motivational Network meeting. (See Appendix 1-A)

The accomplishments of the institute were as follows:

The role of the ES'70 Coordinator, the change agent in the district was clarified, the use of the learning packages was further defined. The ES'70 Coordinator who ordinarily performed as an administrator with defined line functions began to see himself not only as an administrator responsible for certain specifications but as a change agent who had to find his way to change their coordinated use of the expertise and input of other administrators. He broadened his scope of thinking. After he put forth an idea in the beginning it was put forth regardless of the possible damage to establish ways and means. He simply demanded that others conform. At the end through this workshop the considerations of the whole school and the responsibilities of individuals were coordinated to make change operable.

Each coordinator developed for himself the germ of a methodology and approach to staff development and the institution of change. These rather sketchy ideas were reported to the home districts for further refinement and implementation. In addition there is an appreciation of the vast problem of the implementation of the interdisciplinary methodology. Nothing in this area was started. Opinions spread across the board from a revitalization of the old core curriculum to interdisciplinary goals fostering a work-study skills approach to absolute frustration.

CHAPTER II

METHODS AND PROCEDURES

The methodology we employed had several steps. First, to remove the participants from his normal role in the school placing him in a role he might well find to be in opposition to his real role. (See Appendix 1-B) Secondly, each participant was exposed to a group whose composition of make believe roles included his real role. Therefore, he might even be able to see himself in operation. Thirdly, the group leaders were selected carefully in an effort to create as much dialogue as possible about real problems or the attempt to find real solutions. (See Appendix 2) There was an attempt on the part of the workshop administrator to set a mental tone through the use of the introduction. (See Appendix 3) In order to reduce the number of definitions that the participants might attach to certain words a glossary (Appendix 4) was attached to the introduction.

Further than this, Thoughts on the Responsive Curriculum, which is a basic ES'70 concept, was included in an attempt to stimulate thoughts about change. (See appendix 5) As the participants went through the agenda they began to sense a change within themselves which assisted them in perceiving their hometown roles as something different and more exciting. The initial reactions (Appendix 6) were recorded at the close of the conference with each participant professing to have clarified his position as a change agent.

This institute was organized to meet the felt need of the ES'70 Network coordinators with several methods and means being investigated and rejected. Finally, when the approval was obtained in the Office of Education, only twelve days before the institute was to open, the format was solidified.

The participants were selected by the ES'70 Coordinators and the administration of the network schools. The first letter of invitation certainly does not reflect the actual happenings of the institute but did serve prime purpose of getting a good cross section of the participating districts.

In addition to that letter, telephone calls to regional representatives were used to invite participants.

The procedures used in conducting the institute were largely explained in the foregoing. The groups were scheduled between the leaders and used the role playing and an informal presentation by each group leader. These presentations were based upon the questions, hopes, and aspirations of each of the participants.

Dr. Nikolai and Dr. Brainard helped each participant approach the basic problem of change. The discussions centered on the problems of status, reason for change, the content of change and the role of the change agent.

The leaders from Philadelphia were challenged on their stance concerning the interdisciplinary methodology. The many problems involved in instituting this methodology were approached. Primarily, amongst those being the basic goals of the interdisciplinary learning package and the behaviors it tends to foster and the task of gathering the raw materials for the construction of interdisciplinary packages. There was a wide diversity of opinion concerning the framework and the goals of the interdisciplinary package. Some were more interested in providing an interdisciplinary methodology which would result in job-entry skills for the youngsters while others were more subject-matter oriented tending to feel that the incorporation of two or more discipline areas in an interdisciplinary package would suit their purposes even in vocational education. The diversity of the schools in the ES'70 network was apparent here.

The Willingboro learning packages of 1969 had been revised and rewritten. The group leader from Willingboro presented these packages as well as fifty or sixty other examples of subject area packages. In this group the problem of writing packages and training teachers in the use of the packages allowed for a discussion that was commonly grounded in all network schools. The Willingboro packages for the writing of behavioral objectives were acceptable to one and all.

The institute evaluated with two instruments. (Appendices 7 and 8) The respondents seemed quite candid with the staff during the institute and their remarks were reflected in the evaluation instruments.

CHAPTER III

RESULTS AND CONCLUSIONS

From a look at the summary figures gleaned from the final evaluation sheet it seems quite obvious that most people considered the two days as being in the range of "Moderately Effective" to "Highly Effective" as regards themselves and the announced purpose of the program.

However, as we look over the evaluations we can see that this certainly was not an unqualified success. It is the feeling of the author that the program merely touched the surface of this tremendously complicated and involved problem. It substantiates the author's personal hypothesis that attitudinal change through behavior change must be planned, sought after, and implemented on every level of the teaching hierarchy before change is to take place.

Further than this, the results indicate the multitude of basic fears on the part of selected change agents.

It seems quite evident that this effort was insufficient due to the lack of time and sufficient personnel to carry the project to an end that would give lasting results.

There is much to be done in this area. The pace of change is ever increasing. Change agents and their colleagues must be given the methods and the opportunity to deal with personal inhibitions and the inter-personal constraints which are involved.

Simply having the tools necessary and the knowledge necessary to write behavioral objectives and learning packages is not enough. The individual who has this knowledge who can use and create behavioral objectives must have the methodology necessary to institute this and other basic changes in our curriculum efforts.

The area of further investigation seems, to this author, to be outlined especially for the behavioral scientist. An extension of Sarason's work seems to be demanded. (See Bibliography)

CHAPTER IV

EVALUATION

The evaluation was conducted through two instruments (see Appendices 7 and 8), with the first one being an immediate onsite evaluation to catch the first impressions. This instrument indicated that roles were clarified and that change was recognized as being different from simply rearrangement. Of the thirteen comments in question three, we find three strong comments on the Willingboro learning packages and the method of change. The session with Dr. Brainard and Dr. Nikolai on change-agentry had three direct references and several indirect references which gives an indication of the needs as felt by the participants.

In the answer to question four indicates some dissatisfaction with role playing, but the comments are taken to be in a minor key.

The follow up evaluation (appendix 4) indicates a little more clearly that the participants felt the workshop to be "Moderately Effective" and "Highly Effective" with 150 responses on the former item, Moderately Effective, and 133 for Highly Effective. It would seem that much of the initial enthusiasm had diminished. A careful reading of the comments and suggestions indicates second thoughts which one could surmise as being the result of the participants being once more thrust again into the cold, cruel world of reality in their home districts.

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"Television In Education", Bell Telephone Company, New Jersey

EDUCATIONAL SYSTEM FOR THE SEVENTIES
ES '70
A COOPERATIVE PROGRAM FOR EDUCATIONAL INNOVATION

WILLINGBORO
New Jersey

February 9, 1970

TO: ES'70 Coordinators

At a recent meeting in Washington, I talked to Duane Nielson and Jack Wilson about using the surplus funds available from our last year's summer institute on behavioral objectives. They suggested that we run a two-day institute utilizing the packages developed for last summer's institute.

The reason the money is now available is that there was little time to get all the participants that we wanted for last summer's institute. A meeting at Santa Fe may provide a vehicle for this. The plan is for the coordinators, principals, and/or other supervisory personnel to meet for two days following the regular network conference. That is, we would meet on March 25th and 26th to get a rundown on the Willingboro packages, and to devise a method of using them within your local faculties.

Further than this, there will be a consideration of the use of these packages in the development of interdisciplinary behavioral objectives. The reasons for behavioral objectives, interdisciplinary objectives, and the process of change will be discussed.

Would you as coordinator plus one or two of your staff members be willing to attend such a workshop? Please forward to me as quickly as possible the names of those who could attend this workshop.

I do have some monies available to help you defray expenses. This is not a large amount. If all twenty districts are engaged in the workshop I can offer up to $100.00 for each district. If there are fewer districts involved, the amount could be raised. Please let me know immediately if there is interest in such a workshop in your district and forward the names to me.

The purpose of the Santa Fe Workshop:

The institute is specifically constructed to offer a program in the structure of individualiztion, the writing of disciplinary behavioral objectives, the development of realistic concepts, and the formulation of an action program of implementation in the home district.

This program is the direct result of Willingboro's efforts to utilize the best information and the best techniques possible in the development of behavioral objectives. The use of these packages will expedite the practical implementation of individualized instructions. Participants in the institute are expected to be able to return to their home districts with some materials with ample instructions and plans to initiate action workshops so that every staff will be knowledgeable in the writing of behavioral objectives.

Although the institute will center primarily around the subject area of vocational education, the training program in the writing of behavioral objectives, interdisciplinary behavioral objectives - is applicable to all teachers. That the high school administration, central administrator, and the staff of the project would lay out by date and hours the program that could be inserted into the present on-going high school program.

Thomas S. Dietz
ES'70 Coordinator
Willingboro, New Jersey

APPENDIX 1-B

GROUP	PARTICIPANT	ROLE
A	Eliot Spack	A student who did like the learning packets.
B	George Love	
A	Stu Sargeant	An older superintendent convinced the individualized program is essential.
B	Bill Hetrick	
A	Ken Smith	Young, ambitious superintendent convinced the individualized program is essential.
B	Milo Dalbey	
C	Chuck Mink	
A	Bob Boston	ES'70 Coordinator trying to convince a principal to change from traditional to an individualized environment. Not sold on ES'70.
B	Mickey Sharrow	
C	Genie Pedersen	
A	Bill Reed	A student who thrives in individualized environment created by your school systems use of the learning packets.
B	Lucille Santos	
C	Larry Ayers	
A	V. Lahourcade	Principal of a high school trying to implement change.
C	Bob Sutch	
A	Blaine Zimmerman	Teacher in an individualized environment partly sold on use of packets but committed to this methodology and to administration.
C	Mr. Meachem	
A	Tom Townsend	ES'70 Coordinator sold on the program but you lack cooperation from the district's administrators.
B	Lloyd Creighton	
A	Dick Otte	Successful teacher, accepted by colleagues and see no reasons to change your approach to any sort of individualized program.
B	Sister Clarisse	
B	John Hoback	Student in an individualized environment who refuses to work on his learning packets.
C	Art Pace	
C	Earl Bolton	Principal of large high school & reluctant to consider change.

NOTE: All the roles' positions were defended in terms of what the participant believed to be the good or evil of ES'70

WORKSHOP PARTICIPANTS

Eliot Spack, ES'70 Coordinator, Mineola Public Schools, Mineola, New York

George Love, ES'70 Coordinator, Philadelphia, Pennsylvania

Stewart Sargent, ES'70 Coordinator, Quincy Public Schools, Quincy, Mass.

William Hetrick, ES'70 Coordinator, Monroe Public Schools, Monroe, Mich.

Kenneth Smith, ES'70 Coordinator, Nova Public Schools, Florida

Milo Dalbey, ES'70 Coordinator, Union Free School District, Mamaroneck, N.Y.

Charles W. Mink, ES'70 Coordinatir, San Mateo School District, California

Robert Boston, ES'70 Coordinator, Bloomfield Hills School District, Michigan

Samuel Sharrow, ES'70 Coordinator, Baltimore City Public Schools, Baltimore, Md.

Genie Pedersen, ES'70 Coordinator, Catholic School Board, Chicago, Illinois

William Reed, ES'70 Coordinator, Boulder Valley Schools, Boulder, Colorado

Lucille Santos, ES'70 Coordinator, Edgewood Independent School District,
San Antonio, Texas

Larry Ayers, ES'70 Coordinator, Portland, Oregon

Violet Lahourcade, San Antonio, Texas

Robert Sutch, Principal, Custer Jr High, Monroe, Michigan

Blaine Zimmerman, Principal, Cantrick Jr High, Monore, Michigan

Allan Meachem, Baltimore City Public Schools, Baltimore, Maryland

Thomas Townsend, Chicago Catholic School District

Lloyd Creighton, Quincy Public Schools, Quincy, Massachusetts

Dick Otte, Office of Education, Washington, D. C.

WORKSHOP PARTICIPANTS (Cont'd)

Sister Clarisse, Catholic School Board, Chicago, Illinois

John Hoback, Principal, Boulder High School, Boulder

Arthur Pace, ES'70 Coordinator, Houston, Texas,
Booker T. Washington High School

Earle Bolton, San Antonio, Texas, Edgewood School District

ROLES PLAYED BY PARTICIPANTS

1. You are an ES'70 Coordinator and you are trying to convince a principal that he must change from a traditional to an individualized environment but you are not sold on ES'70. All you have seen from ES'70 are Learning Packets and a lot of high-flown talk. Deep down inside you have a certain sympathy for the principal, but personally you are committed to change. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

2. You are an ES'70 Coordinator who is thoroughly sold on the program, but you lack cooperation from the district's administrators. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

3. You are a member of a Board of Education with the majority of the Board behind you. You are trying to invoke policies that will create change. Your superintendent and principals are at odds with you. You have one year to go in office and then you wish to try for re-election. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

4. You are a member of the Board of Education who feels that his school system is failing the children because the "tried and true" methods of education have not been enforced. There are too many new things in the system. Changes have been made inappropriately. Data created on the performance of the children backs your argument. You are in the minority on the Board but the principals are with you. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

5. You are an older superintendent whose principals are crying for change. You have reluctantly entered the ES'70 Corporation. Your Board of Education is ambivalent. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

6. You are a superintendent of schools who is young and ambitious. Your rise to the top has been fast and you are convinced that the individualized program is essential for the best learning situation. You would like to implement this on a K-12 basis. Your board and the administrators involved are reluctant to change. Your job is on the line. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

7. You are a principal of a large high school. The routines of the high school, the scheduling, and the staff are all elements that are welded together. You are reluctant to even consider change because of the problems involved and your own feelings of frustration which come from the realization that change is inevitable. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

8. You are a principal of a rather large high school. You are trying to implement change. You would like your staff to graduate from the traditional methodology to a more individualized program. You have heard that this is a good idea. You have never had a chance to practice it as a teacher, but you feel that as a principal this would look good on your record. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

9. You are a teacher in an individualized environment who is partly sold on the use of packets, but who is committed to this methodology and to administration. There is a flickering flame of resentment in you. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

10. You are a teacher who has been successful throughout the years. You are accepted by your colleagues and you see no reason to change your approach to any sort of individualized nonsense. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

11. You are a student in an individualized environment and you refuse to work on your Learning Packets. Further, you constantly annoy the other students. Your attitude is largely one of resentment. Your teacher and the administration insist upon using learning packages. Defend your position in terms of the good or evil you see in the ES'70 efforts to create change.

12. You are a student who thrives in the individualized environment created by your school systems use of the learning packets. You are far ahead of others in your class. However, certain of your basic problems of growing up seem to have no solutions. There is a scratchy feeling of insecurity inside you. Explain your position in terms of the good or evil you see in the ES'70 efforts to create change.

13. You are a happy student when using the individualized packets. You are successful in school but you have learned to play games with your teacher and the packets which give you much free time. You have a feeling that your education is only touching the surface of life. Several of your buddies are experimenting with sex and drugs. Explain your position in terms of the good or evil you see in the ES'70 efforts to create change.

APPENDIX 2

EDUCATIONAL SYSTEM FOR THE SEVENTIES • A COOPERATIVE PROGRAM FOR EDUCATIONAL INNOVATION

ES '70

WILLINGBORO
New Jersey

ES'70 WORKSHOP
SANTA FE, NEW MEXICO

MARCH 25TH, WEDNESDAY

9:00	a.m.	Opening:	T.S. Dietz E.G. Spack
		Introduction to program:	T.S. Dietz
		Hand outs:	a. Role assignments b. Group assignments
9:45	a.m.	Coffee	
10:00	a.m.	To groups with roles assigned	
12:00		Lunch	
1:00	p.m.	Dr. Irvin Nikolai	Group A
		Philadelphia	Group B
		Willingboro	Group C
2:30	p.m.	Break	
3:00	p.m.	Willingboro	Group A
		Dr. Irvin Nikolai	Group B
		Philadelphia	Group C

EDUCATIONAL SYSTEM FOR THE SEVENTIES
ES '70
A COOPERATIVE PROGRAM FOR EDUCATIONAL INNOVATION

WILLINGBORO
New Jersey

ES '70 WORKSHOP
SANTA FE, NEW MEXICO

MARCH 26TH, THURSDAY

9:00	a.m.	Philadelphia	Group A
		Willingboro	Group B
		Dr. Edward Brainard	Group C
10:30	a.m.	Break	

10:45 a.m. Feedback from group leaders-
Listing:

1. Identification of the change agent(s).
   a. His (their) role (s) activities
   b. Place in the hierarchy
2. Plans for fostering change?

12:00 Lunch

1:30 p.m. Reaction Panel (Reacting to feedback in terms of implementation methods for ES'70 change agents:

Dr. Irvin Nikolai
Dr. Edward Brainard
Dr. Eliot G. Spack
Mr. George Love

plus,

students
coordinators and participants

APPENDIX 3

EDUCATIONAL SYSTEM FOR THE SEVENTIES

ES '70

A COOPERATIVE PROGRAM FOR EDUCATIONAL INNOVATION

WILLINGBORO
New Jersey

INTRODUCTION

This workshop is intended to be different - - - let's hope it is. Your activities are scheduled, but your actions and reactions will make the difference between this workshop and others apparent.

The structure of the two days is not so different excepting in that you are not to be yourself. We hope you will carry out the role assigned to you for at least a day and a half. Come back to earth the second half of the second day to have another look at your true role and your situation.

Insofar as it goes, the above explains the workshop . . . . you have your work cut out. Translated: we have told you what to do and if the whole thing is a mess it is your fault, so there!

Now as to the why of the structure. . . . ES'70 has been struggling in a morass of polysyllabic words and phrases, some of which has been understood and some of which has been misinterpreted. There has been some movement in the family of districts, as in a "Chinese fire drill" - - old G. I. saying meaning things are not focussed. Yet, the officials of each district will swear as to the purity of heart of each of the doers. Each explains his direction in terms of local expediency. But it does seem that the cart is still before the horse..

The LAPS, the LEMS, the PACKETS, or whatever are not doing the job for all. Teachers are asked to do jobs they have little skill for. Children are asked to assume an eagerness for that for which they have been poorly prepared. The DOERS struggle from one crises to another.

What then should be the role of the ES'70 coordinator, the change agent and his immediate changer, the principal?

What sorts of activities are within his rightful role?

How can he achieve the status and "power" he needs to achieve, to change, so as to get the results he must have?

What sort of a vehicle is necessary to effect change?

We hope you will enter into this workshop with a true shedding of your position and preconceived ideas of the roles and positions of others. Your roles have been assigned with some thought. How valid the thought we shall see. If you are at sea, disturbed with your role so much the better. Call upon your experience with those in the actual roles assigned to you. How do they act, seemingly feel, and react to others in the school situation?

Given your present situation, the hierarchy of power in which you work, the demands of the State Department of Education and the community, you are to prepare three methods for the implementation of change within your district. These must be cost-free. If two of the three methods are accepted by the administration and board you may be considered successful in your efforts with the administration. If, when you attempt to implement your two methods one seems to be workable with the staff and building administrator, you will be assumed an effective change agent. List the changes in your own behavior and the changes that occurred in the behavior of your colleagues. Outline the product of the change.

Lurking in the minds of each of us in the day-to-day activities of the job are certain feelings about one's situation and colleagues that have best been explained by Potter in his book "One Upmanship", further clarified by Parkinson in his enumeration of the various Parkinson Laws, and by your own recognition of the operation of the Peter Principle. Further than this, people do play games as Eric Berne has pointed out. All of the fears, traps, and communications pitfalls we find in the daily job must be left behind in this workshop. If we are to achieve a different view of ourselves and the change agents we are, we must put aside the childish play toys of the "real" world and meet with ourselves.

APPENDIX 4

GLOSSARY

change	To give a different position, course, or direction to
agent	Something that produces or is capable of producing an effect: an active or efficient course.
new	Being other than the former or old (model)
response	The output of a transducer or detecting device resulting from a given input.
train	To form by instruction, discipline, or drill
develop	To cause to grow and differentiate along lines natural to its kind.
Innovatah	You
staff	The personnel who assist a director in carrying out an assigned task.
arrange	To put in proper order: dispose

APPENDIX 5

THOUGHTS ON THE RESPONSIVE CURRICULUM

With the advent of the new federal administration the whole tone of government funding has changed. I think it can be stated fairly that professional educators do not hold the position of high esteem that they once held. The reasons for this are fairly obvious. The history of ESEA Title I and Title III, particularly, shows us that many dollars have gone down the drain. Perhaps this was necessary. The original import of the education act was to improve education. Educators who had been operating upon a shoe string for years suddenly had money and didn't really know how to use it. Many were efforts abortive in nature, pie-in-the-sky, situated on cloud nine.

The boys and girls told us this before the new administration took office, and yet, educators hide, still blaming the lack of money and the lack of personnel as well as uncooperative students. But blame for past failures lies directly on the heads of the educators.

Thus far, the curriculum offerings of our schools have not been responsive to the students needs as he sees them, nor to the problems that he faces while growing into adulthood.

Adults face problems now that are child's play compared to those problems our youngsters will face. Some of the present problems revolve around the power struggle between nations - the ABM - Vietnam the population explosion, the problems of the basics of life - and man's ecology coupled with the decay and uselessness of cities. Transportation and distribution of goods and services, creeping mediocrity of goods and services, public information by media all add a hysterical flavor to the problems of adults' society. The concept of self, and being an individual, the search for a way of group survival, man's power drives concern us all.

The high school youngsters interviewed for this paper gave evidence of many of the same concerns. In addition, they say that schools are run on a "group-total basis." Disciplinary measures in the schools are simply "a challenge" to disrupt. "Teachers are prejudiced," and the school offerings are of little help in race relations. "There is no sense of honesty." Respect between the groups is absent. In summation, there is a dearth of human communications that is terrorizing our young people. A responsive curriculum must offer solutions to these problems. It must be relevant to the youngsters in this day and time and, hopefully, to them in the future. It must be responsive to individual learning patterns and needs, and it must be a manageable, and not bankrupt society.

If there is some sort of disagreement on the part of the reader at this point he had best destroy this paper. If there is some agreement with this point of view I would suggest that he continue.

The responsive curriculum is that which does away with the absurdities of the subject areas. In order to be truly responsive to youngsters needs and problems it is inappropriate to segment the information he will have to use in order to solve his problems. There is no skill nor subject that can be taught out of context with life and other skills. There is no problem that can be solved by science alone, or math, or spelling, or English. Yet, we teach youngsters through the use of specialized areas and say to the immature mind, now you have the math, science, English, social studies, et cetera and you are educated while leaving to this youngster the solution to his growing problems. He selects bits and pieces of information from each area and tries to put them together into a solution.

Often enough he has been taught neither how to select, nor how to assemble this information, Therefore, his bag of tools, though honed and sharpened, are often used improperly or not at all.

A responsive curriculum must be a complete reversal of what has been taught. The base must be those larger problems of growing up such as the communication, the economics of nations, groups, and individuals, the ecology of mankind, and group and personal behavior. If such broad areas were broken down with subject specialists contributing knowledge and reassembled objectively, we could approach a truly interdisciplinary curriculum. Further, this curriculum could be based on those individual needs of youngsters as he himself would help to identify, he would be involved thoroughly in the design of his own education.

Many people disagree with this approach for it is far beyond the standard approach to learning problems. It takes the heart out of the subject-matter centered curriculum which is easily taught. This approach assumes that teachers are broad enough to accept this kind of responsibility and bring us to the first and obviously the most crucial step in the evolution of a new program. That is, the creation and implementation of a staff development program.

All to often what is called the development is simply staff training. Charlie Innovatah conceives an idea, gets some sort of administrative backing and then runs down the halls of his school or checks over the master staff list looking for people who might not be too threatened by something different. If, Charlie finds several people he attempts to approach them individually. Somthing in this manner. Charlie, "Say, Max, I just had an idea I thought I would bounce off you." This is a patent lie because Charlie has already figured this thing out to the nth degree. Max in his turn, and if he has any respect for Charlie, usually thinks, "Well, it can't hurt to listen, he is a pretty good egg." If Max is not quite so friendly but competent in his work he will think to himself, "What the hell is he up to now and why should I change!" At any rate, Charlie goes ahead and if he can elicit some sort of warm response, not even a hot response, only a lukewarm response, he reports success to his superiors and barrels into a program of training, not a program of development. This training is simply the reorganization of existing capabilities into a different format and usually employing the same subject matter structure.

If this training is touted as being individualized, it usually means that a participant will have been construed to be more or less proficient to begin with; and, therefore, have to suffer through fewer of the training sessions. In none of this is the individual expected to change basically. He may still hate kids, he may still view his administrator and/or the building as archaic and crumbling, and be thankful that there are kids in the community because he really does need a job.

The pattern has changed little. Unless educators take bold action, unless they pull themselves up squarely and face established opposition, the educational effort will continue to be mechanized.

If one looks closely at one of the most advertised learning programs in mathematics one finds that the program essentials are excellent from diagnosing the individual, to the pacing, to the remedial work. There is nothing in the elements of this program that is artistry.

Every facet of this program is the mechanization of the teacher's role.

This tells us that teachers are inadequate, poorly developed, (no pun intended), and the mechanized programs are a substitution for the artistry of teaching. If this substitution were truly valuable, enlightening, and artistic it could be supported, but it tends to dehumanize both the teacher and the pupils.

Bright people without artistry reduce education to a canned steps of "progress". This can be called individualized instruction; it can be called progress; but it cannot be called personalized instruction. It doesn't develop the student and his propensities, but offers rather an inhuman ladder of tasks to be performed.

If we are to approach the interdisciplinary curriculum it must be humanized. The very nature of the ES'70 concept, although systemized, is based upon human problems of boys and girls and society. As mentioned earlier, the problems of the older people in the establishment of education are not exactly those problems of the youngsters. Each age of an individual brings with it different problems. By the simple accumulation of years one finds himself with responsibilities and problems that were not visited upon him in earlier periods of his life. If our curriculum is to be truly relevant, the problems and situations of each of life's periods must be delineated and approached.

In the public schools we can pave the way for individuals growing up in our society. We can give them a methodology, a philosophy, a manner of thought that could well become part of their personalities and provide for successful learning experiences throughout their lives. We must embrace the thorny process of change. We must create not rearrange.

APPENDIX 6

LEARNING PACKET #1

"INDIVIDUALIZED INSTRUCTION"

INDIVIDUALIZED INSTRUCTION L.P. #1

CONCEPT- - - - - - - - - - - - Individualized Instruction

PURPOSE- - - - - - - - - - - - Educators are encouraged to develop techniques of Individual Instruction to provide meaningful and realistic learning experiences for the students. The rote learning experiences of the traditional curriculum with their emphasis upon the acquisition of factual knowledge can no longer be justified in the preparation of the students of today for participation in tomorrow's world. Therefore, it is incumbent upon the teachers of today to implement methods and procedures that will afford the students every opportunity to develop fully in terms of their particular interests, abilities, and objectives.

WILLINGBORO PUBLIC SCHOOLS L.P.#1

Learning Packet No. 1

"Individualized Instruction"

PRE-Test

NAME______________________________ DATE______________

DIRECTIONS: List five characteristics of an individualized instructional program of education; discuss each with the instructor to determine the structure and function of these characteristics and their relationship to the learning process. The accuracy level for this test is 100%

1.

2.

3.

4.

5.

WILLINGBORO PUBLIC SCHOOL L.P.#1

Learning Packet No. 1

"Individualized Instruction"

POST-TEST

NAME________________________________ DATE________________

DIRECTIONS: List five characteristics of an individualized instructional program of education; discuss each with the instructor to determine the structure and function of these characteristics in their relationship to the learning process. The accuracy level for this test is 100%.

1.

2.

3.

4.

5.

L.P.#1

BEHAVIORAL OBJECTIVE - - - - - - - - - -

The Participant will list five characteristics of an individualized program of education and discuss each with an instructor to determine the structure and function of these characteristics in their relationship to the learning process, the accuracy level for this objective being 100%.

LEARNING ACTIVITIES:- - - - - - - - - - -

1. "Developing Individualized Instruction Through Behavioral Objectives" Segment #1
2. Audio Cassettes #1 - "Individualized Instruction"
3. Overlays #1 and #2 -"Individualized Instruction"
4. "Individualized Instruction in Action" - videotape
5. Plateau group discussion - staff members & Department Chairman.
6. Vimcet filmstrip/audio tape - "Systematic Instructional Decision-making"

POST-TEST - - - - - - - - - - - - - - -

(See instructor)

ENRICHMENT - - - - - - - - - - - - - - -

1. "Realms of Meaning" - Phenix, Chap 1
2. "The Saber-Toothed Curriculum" - Peddiwell
3. "The Process of Education" - Bruner, Chap 2

LEARNING PACKET #2

"THE STRUCTURE AND FORMAT OF AN INSTRUCTIONAL LEARNING PACKAGE"

0V1177

INSTRUCTIONAL LEARNING PACKAGE L.P. #2

CONCEPT- - - - - - - - - - - The Structure and format of an Instructional Learning Package.

PURPOSE- - - - - - - - - - - The Instructional Learning Package is an educational tool by which individualized instruction in the classroom can be implemented. The package satisfies many of the basic needs for the individual student by providing opportunities for self-direction, free selection, enrichment, and varied learning procedures among other things. The learning package is linked to a systems approach to education by its basic sense.

WILLINGBORO PUBLIC SCHOOLS L.P.#2

Learning Packet No. 2

"Instructional Package: Format"

PRE-TEST

NAME______________________________________ DATE____________________

1. Be sure that you are able to identify the interfacing of the following terms with a sound learning program:

   PACING
   LEARNING TRACKS
   ENRICHMENT

2. List three activities carried out by the students that make their association with the learning process more realistic:

   a.____

   b.____

   c.____

3. It is essential that a learning package has certain characteristics to be functional with large groups of self-directed students. Name three:

   a.____

   b.____

   c.____

4. We have suggested a possible format of seven steps in the construction of a Learning Package. How many can you name?

   a.____

   b.____

   c.____

   d.____

   e.____

   f.____

   g.____

5. If you had to leave one step of the format out, which one would it be?

WILLINGBORO PUBLIC SCHOOLS L.P.#2

Learning Packet No. 2

"The Instructional Package: Format"

PRE-TEST C

NAME____ DATE________________________

DIRECTIONS: List in writing the seven parts of the suggested package format and describe orally the basic premise for the use of each at an accuracy level of 85%.

1.

2.

3.

4.

5.

6.

7.

BEHAVIORAL OBJECTIVES- - - - - - - - - - - - -

The student will list in writing the seven parts of the suggested package format and describe orally the basic premise for the use of each at an accuracy level of 85%.

SUB OBJECTIVES- - - - - - - - - - - - - -

1. The student will list in writing five factors of the learning package that provide opportunities for realistic learning activities at 80% accuracy.
2. Given the concept of a learning package pre-test, the student will discuss orally the function of the pre-test to the satisfaction of the instructor.

LEARNING ACTIVITIES- - - - - - - - - - - - - - -

1. "Individualized Instruction Through Behavioral Objectives and Learning Packages," Segment II
2. "Working With Individualized Instruction," Esbensen pp. 1-3
3. "Developing Attitude Toward Learning," Mager, pp. 3-12
4. "Innovation in Education," CED, Chap. 3
5. Audio Cassett #2 - "Individualized Instruction" - LRC
6. Overhead Projector Overlay # 2a, 2b - "Individualized Instruction" - LRC
7. Videotape #2 - "Individualized Instruction"
8. A Learning Packat on How to Make a Learning Packet.
9. Group Interaction plateau meeting.

POST-TEST (See instructor)

ENRICHMENT

1. Review instructional package samples.
2. How to Write a Learning Packet - instructor

WILLINGBORO PUBLIC SCHOOLS L.P.# 2

Learning Packet No. 2

"The Instructional Package: Format"

POST-TEST - Part A

NAME____ DATE____________________

DIRECTIONS: List in writing five factors of a learning package that provide opportunities for realistic learning activities at 80% accuracy.

1.

2.

3.

4.

5.

POST-TEST - Part B

DIRECTIONS:

Please discuss with your instruction, to his satisfaction, the function of the pre-test.

WILLINGBORO PUBLIC SCHOOLS L.P. #2

Learning Packet No. 2

"The Instructional Package: Format"

POST-TEST - Part C

NAME______________________________ DATE______________

DIRECTIONS: List in writing the seven parts of the suggested package format and describe orally the basic premise for the use of each at an accuracy level of 85%.

1.

2.

3.

4.

5.

6.

7.

LEARNING PACKET #3

"A CONCEPT"

THE CONCEPT L.P. #3

CONCEPT- - - - - - - - - - - - - A concept

PURPOSE- - - - - - - - - - - - - By stating those things you want to teach your students in concepts, they will help to clarify in your mind as well as in your student's minds your instructional intent.

PRE TEST- - - - - - - - - - - - -

WILLINGBORO PUBLIC SCHOOLS L.P. #3

Pre and Post-Test on Learning Packet #3

"CONCEPTS"

NAME______________________________ DATE______________

DIRECTIONS: List ten concepts relative to your discipline that you are now teaching. An accuracy of 100% is necessary to successfully complete this test.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

BEHAVIORAL OBJECTIVE

The student will list in writing ten concepts. These concepts must not be too broad or too narrow. The ten concepts must relate to the student's specific discipline. The accuracy level is 100%.

Learning activities-------------------

1. "A Learning Packet on How to Make a Learning Packet" - Unit on concepts
2. The Conditions of Learning by Robert Gagne
3. Overhead projector overlay
4. Segment - "The Meaning of The Word Concept" - O'Donnell
5. Group interaction
6. Department Conferences - Department Chairman

WILLINGBORO PUBLIC SCHOOLS L.P.#3

"The Concept"

This segment was written for two purposes: (1) To help give you a better understanding as to the meaning or definition of the term concept; and (2) why concepts are a very important part of the student's learning packet.

Purpose Number One

In Learning Packet No. 5 you will learn how to write a behavioral objective. When you begin writing behavioral objectives you will be informing the student that he is going to have to perform or behave in a certain way to prove that he has learned whatever it was you wanted him to learn in the objective. This thing that you want him to learn in the objective is called a concept or a sub-concept. Although you may have heard many definitions of the word concept and you may have your own definitions of the word concept, and want you to use the following meaning or definition in our systems approach for instruction: A Concept is a single learnable idea, skill, or attitude. Following are some examples of how a concept can be classified as an idea, skill or attitude.

The noun is a concept, It was someone's idea to call that word which names a person, place or thing a noun. Our purpose for teaching this concept to students is for them to get this idea or concept that a word which is used to name a person, place, or thing in a sentence is called a noun. By the way, an objective written for this concept would fall into the cognitive domain. This is the reason we we say a concept can be a single learnable idea.

How can a skill be classified as a concept? Dribbling a basketball is a concept. It was someone's idea that in order to make the game of basketball more challenging and interesting the player would have to slap, or should it be push, the ball down in front of him every time he takes a step in moving with the ball. Dribbling a basketball, because of the necessity for eye, hand and feet coordination is then classified as a skill, Although you may have part of this concept of dribbling a basketball by observing someone else dribble, you will never have the full concept of skill of dribbling until you actually learn how to do it. By the way, an objective written for this concept would be classified in the psycho-motor domain. That is why we say a concept can also be a skill.

How can an attitude be classified as a concept? Civic responsibility is a concept. It was someone's idea that those people who are active, in constructive and positive ways, to make their community a better place to live are people who demonstrate civic responsibility. Our purpose for teaching this concept to students would be to develop a better attitude in relation to making their community a better place in which to live. By the way, an objective written for this concept would fall into the Affective Domain. That is the reason we say a concept can be an attitude.

In summary, I want to paraphrase a statement from your Learning Packet on How to Make A Learning Packet: What's a concept? You can find many definitions each with its own bias. We've tried to work out a simple one that might not be acceptable by all learning psychologists, but which we think is useful for teachers:

A Concept is a Learnable Idea. We use the word idea for the sake of simplicity since we want learning packages to include the cognative, the psycho-motor and the affective, then we really mean ....

> A concept (in our terms) is a single learnable idea (Example: The noun), skill (Example: Dribbling a Basketball) or attitude (Example: Civic Responsibility).

Let us now go to purpose number two. Why is it necessary for us to state the concept in the learning packet and especially at the very beginning of the packet? As you are probably aware, the state and local boards of Education have the responsibility for establishing the broad educational goals for our school district. They in turn have given us as teachers the responsibility of using the kind of instructional plan which will help students reach these goals. It, therefore, would seem to me, that we must decide what are those specific things (concepts) that we want our boys and girls to learn which will be revelent and meaningful to them so they may reach or obtain the broad educational goals the community has established for them.

L.P.#3

A student has the right to know, and we as teachers have an obligation to inform him what it is specifically we want him to learn in order that he may be able to come to a self-realization and be an effective citizen in a democratic society. To carry this two steps further, we also have an obligation to give him a purpose for learning the concept, and state specifically what kind of behavior or performance is expected of him so he will know when he has been successful.

In stating your concepts, please be careful that you do not state them so broadly that they will be so complex that you and your students will get lost in the process of reaching them. Example: "The noun" is a broad general concept. If you wanted to teach every aspect of the noun in one learning packet, you certainly would run into problems. Along with this, it may not be educationally sound to teach every aspect of the noun in one period of time. You and your students would probably be better off if you broke the concept of "the noun" down into sub-concepts. As an example, you may want to teach or develop a packet around just the concept of the "common and proper noun."

You also should be careful that you do not make your concept too narrow. As an example, if you selected "The question mark" as a concept, you may find there may not be enough substance to this concept, to make it meaningful for the students. To reinforce what I have stated, please refer to your "Learning Packet on How to Make a Learning Packet."

If, as you work with concepts, better definitions, explanations or examples occur to you, I would appreciate hearing from you so that this presentation can be improved and up-dated. Please send your information to:

Joseph O'Donnell, Vice Principal
Abraham Levitt Junior High School
Salem Road
Willingboro, New Jersey 08046

LEARNING PACKET #4

"HOW TO WRITE A STATEMENT OF PURPOSE. STUDENT'S PURPOSE FOR LEARNING THE CONCEPT"

STATING PURPOSES L.P.#4

CONCEPT - - - - - - - - - - - - How to Write a Statement of Purpose. Student's purpose for learning the concept.

PURPOSE- - - - - - - - - - - - If we are going to tell students we want them to learn concepts, it would seem that it would be necessary to give them a reason for doing so. Before you begin to write behavioral objectives for a concept, some thought must be given as to why a student needs to and should want to learn the concept. We, as teachers, usually know the purpose for having students learn concepts, So often, however, students con't know that purpose.

WILLINGBORO PUBLIC SCHOOLS L.P.#4

Learning Packet No. 4

PRE-TEST

NAME____ DATE________________

DIRECTIONS: List five concepts that you teach your students and write a student's purpose for learning each of the five concepts.

1. Concept

   Purpose

2. Concept

   Purpose

3. Concept

   Purpose

4. Concept

   Purpose

5. Concept

   Purposé

BEHAVIORAL OBJECTIVE- - - - - - - - - - - - -

The participant is to list on a sheet of paper five concepts which he is presently teaching and state in writing a student's purpose for learning each of the concepts. This is to be done to the satisfaction of the instructor.

LEARNING ACTIVITIES- - - - - - - - - - - - - -

1. Segment on stating purposes - O'Donnell
2. Some examples of concepts and purposes
3. Worksheet - L.P. #4

POST TEST- - - - - - - - - - - - (See instructor)

ENRICHMENT- - - - - - - - - - - - - - - - - - -

1. The Saber-Toothed Curriculum - Peddwell
2. Discuss purposes for learning with your students.

STATING PURPOSES

You have heard students from other teachers' classes make statements such as: "I don't know why I need to know the gender of nouns." "Why do I have to learn to write paragraphs?" There may be instances where some concepts have no relevance to the student's educational program. If we can't state a purpose which is meaningful to the student, then, perhaps, the concept doesn't belong in our LEARNING PACKET.

Let's assume you have written the following concept:

"The Paragraph"

What meaningful purpose could you give a youngster to indicate the necessity for him to learn this concept? The following might do:

"If you, the reader of this purpose, learn how to construct a paragraph, you are going to be able to indicate clearly the process by which your main idea is expressed, expanded and related to another idea."

"Since stories, essays, reports, letters and written work, generally, consist of a series of related paragraphs, knowing the concept of the paragraph will be helpful in interpreting other people's writing to understand how they code their thoughts. It will also, most certainly, help others to understand your reasoning if you present your thoughts in writing in a logical manner."

Does this purpose get the message across? Maybe you can do better. Let's give it a try.

L. P. # 4

SOME CONCEPTS AND PURPOSES

Concept ---------------------------------The Planets

Purpose---------------------------- With the advent of space travel, an awareness of the planets becomes increasingly important to everyone. Although most people will never set foot into a space craft, let alone on another world, we all become involved in two important ways. The first is through our tax dollars. We must decide whether or not exploration of the planets is worth the funds spent to achieve the various space goals. You cannot honestly make that decision unless you understand at least the basic facts about the planets. The second is through television broadcasts from outer space. This is your real link with space exploration. If you understand the planets, then, any broadcasts from these other worlds will be much more meaningful to you. These are just the important reasons for studying the planets. As a space age citizen, it is your duty to learn all you can about space and the worlds that are in it.

L. P. # 4

SOME CONCEPTS AND PURPOSES

Concept - - - - - - - - - - - - - Space Travel

Purpose - - - - - - - - - - - - - Man has spent much in time, effort, and money to show that space travel is possible. Now we must decide whether it is useful and worthwhile. In the very near future you will be involved as a taxpayer in deciding on this issue. To help you make this decision, you should understand what space travel is and how it can be used!!

Concept- - - - - - - - - - - - The auxiliary or "helping verb"

Purpose- - - - - - - - - - - - By knowing how to use the auxiliary verb you can add important shades of meaning to the verbs you use. By using certain auxiliaries, you can give time to verbs, change them from active to the passive voice and change sentences from statements to questions.

Concept- - - - - - - - - - - - - - -The problem of drugs and narcotics used in our society today

Purpose - - - - - - - - - - - - - - Drugs and narcotics have become a serious problem in our communities. This problem calls for a war of prevention, treatment and cure. We must start with clear information so that we know what we are talking about. It is essential that each student learn the effects of these agents upon his mental and physical being in the hope of forestalling recourse to drugs.

Concept - - - - - - - - - - - - - - Smoking

Purpose - - - - - - - - - - - - - - Smoking is a proven hazard to one's health. It is essential to present all facts so as to keep the student from starting the smoking habit and to encourage these who already smoke to stop.

Concept - - - - - - - - - - - - - - Folk Dancing

Purpose - - - - - - - - - - - - - - "Young and old, rich and poor, people of every walk of life, every religion, and every nationality, are represented at the usual community folk dance gathering. The reason; folk dancing is easy, and anyone can do it! As one of America's leading recreational activities, it can bring countless hours of relaxation and pleasure to you and to the American Community." So, let's circle-up!

Concept - - - - - - - - - - - - - - The metaphor

Purpose - - - - - - - - - - - - - - If you are able to recognize the metaphor you will be able to grasp the figurative message of a piece of literature and get more enjoyment from it. It will also assist you to enrich your own language through the use of the metaphor.

WORKSHEET - LEARNING PACKET #4

1. Write three concepts that you are planning to teach in one of your courses.

Concept 1____

Concept 2____

Concept 3____

2. Write a purpose for each of the above concepts which will be meaningful to the student who will be learning the concept.

Purpose: 1____

____

____

____

Purpose: 2____

____

____

____

Purpose: 3____

____

____

____

L.P.#4

LEARNING PACKET NO. 4

STATING PURPOSES

POST-TEST

NAME____ DATE____________________

DIRECTIONS: List five concepts that you teach your students and write a student's purpose for learning each of the five concepts.

1. Concept

   Purpose

2. Concept

   Purpose

3. Concept

   Purpose

4. Concept

   Purpose

5. Concept

   Purpose

LEARNING PACKET #5

"THE BEHAVIORAL OBJECTIVE STRUCTURE"

BEHAVIORAL OBJECTIVE: STRUCTURE L.P.#5

CONCEPT- - - - - - - - - - - - - - - The Behavioral Objective Structure

PURPOSE- - - - - - - - - - - - - - - In order to write sound objectives, it is necessary for the teacher to be able to differentiate between educational goals and instructional objectives. It is also necessary to be able to identify the basic component parts of a sound objective so that the skill of writing objectives is further enhanced. In Segment #5, the teacher is introduced to structure of the Behavioral Objective to fortify his awareness before actually writing objectives.

WILLINGBORO PUBLIC SCHOOLS L.P.#5

Learning Packet No. 5

BEHAVIORAL OBJECTIVES, STRUCTURE

Pre-Test

NAME______________________________ DATE____________________

1. Check the action verbs you think are measurable: (90%)

__________ 1. will identify by selecting
__________ 2. will understand
__________ 3. will check the box
__________ 4. will really know why
__________ 5. will recite aloud
__________ 6. will be interested in
__________ 7. will operate
__________ 8. will appreciate the sound
__________ 9. will list on paper
__________ 10. will have a proper attitude toward

2. Name the 3 most important characteristics of a Behavioral objective: (100%)

____________________;____________________;____________________

3. Beside each of the following samples, write P, C, or A indicating performance, conditions, or accuracy as that characteristic of the Behavioral Objective being cited: (80%)

__________ 1. "Given a list of"
__________ 2. "From the 3 statements on this page the student"
__________ 3. "With not more than 3 errors"
__________ 4. "The student will apply the formula to"
__________ 5. "Will be operated 3 times by student"

4. Write two behavioral objectives; draw one line under the Performance portion and two lines under the condtions portion. each objective - accuracy level 100%

a.____

____

____

b.____

____

____

5. Define the following: 100%

a. Performance____

____

b. Conditions____

c. Accuracy____

L.P.#5

BEHAVIORAL OBJECTIVE- - - - - - - - - - - -

Given the concept of the Behavioral Objective, the student will state orally the three basic parts of the sound objective and describe orally to the satisfaction of the instructor the basic function of each part.

SUB OBJECTIVES - - - - - - - - - - - - - -

1. Given a list of ten verbs, the student will identify by checking all the verbs which are acceptable for use in behavioral objectives at an accuracy level of 90%.
2. The student will identify the parts of five written objectives by placing a P, C, or A, over that portion of the objective which is performance, conditions, or accuracy. The level of achievement for this exercise is an accuracy of 100%.

LEARNING ACTIVITIES - - - - - - - - - - - - -

1. Individualized Instruction, op. cit., Segment #5
2. "Preparing Instructional Objectives" Mager, Chap 1, 2.
3. "Developing Attitude Toward Learning", Mager Chap. 3
4. "Innovation in Education," CED, pp. 32-37
5. "The Process of Education," Bruner Chap. 2
6. "Faculty Course in Educational Technology" Quinn, Chap II
7. "Working With Individualized Instruction, : Esbensen pp. 3-8
8. Audio Cassett #5 "Structure of Behavioral Objectives" - LRC
9. Overhead projector overlay #3a, 3b, 3c - Behavioral Objectives
10. Videotape #5 - Behavioral Objectives: Structure
11. Vimcet Filmstrip - "Educational Objectives"
12. Group interaction plateau meeting

POST-TEST ---------- - - - - - - - - - - (See Instructor)

ENRICHMENT - - - - - - - - - - - - - - - - -

1. "Developing Attitude Toward Learning" Mager Chap 4, 5, 6

L.P.#5

WILLINGBORO PUBLIC SCHOOLS

Learning Packet No. 5

WORK SHEET

THE WONDERFUL WORLD OF BEHAVIORAL OBJECTIVES

It is not easy to write sound behavioral objectives. Before you can write them, you must be able to recognize behavioral objectives. Please complete the following objective:

The student will identify from a list of five statements those statements which fulfill the qualifications of a good behavioral objective by placing a yes in the space provided next to the statement at 80% accuracy.

____________________ 1. Given a list of twenty history questions, the student will answer the questions correctly at 90% accuracy.

____________________ 2. The student will identify correctly the irregular verbs in a written paragraph by placing an X over the verb.

____________________ 3. The student will be able to recognize acute angles from a series of geometric figures at 85% accuracy.

____________________ 4. Given a tape recording which includes the sound of five brass instruments, the student will know them at 100% accuracy.

____________________ 5. By spending a morning in a magistrates court, the student will gain an appreciation of the due process of law from his observance of the court proceedings.

L.P.#5

SELF EVALUATION

I. The use of acceptable action verbs is very important to the development of behaviorally-state objectives. Put a check mark next to those words you think are measurable:

______________will enjoy

______________will recit

______________will list

______________will contrast

______________will know

______________will determine

______________will deduce

______________will name

______________will discuss

______________will apply the formula

II. In order for a behavioral objective to be meaningful in all aspects, there are three characteristics that must be prevalent:

____________________ ____________________ ____________________

III, Beside each of the following examples, write P, C, OR A indicating performance, conditions or accuracy as that characteristic of a behavioral objective being cited:

______________1. "with no more than three errors for the exercise."

______________2. "the student will identify by marking a check..."

______________3. "at an efficiency of 80%."

______________4. "given twenty sentences in the nominative case..."

______________5. "the proper count will be identified by the student..."

IV. Write a behavioral objective in the space below which calls for the identification of Republican Presidents from a list provided.

V. Write a behavioral objective in the space below which calls for the solving of division of fractions in an exercise.

WILLINGBORO PUBLIC SCHOOLS L.P. #5

Learning Packet No. 5

"BEHAVIORAL OBJECTIVES"

POST-TEST A

NAME____________________________________ DATE________________

DIRECTIONS: Listed below are ten verbs. Check the verbs in the spaces provided that are acceptable for use in behavioral objectives. An accuracy level of 90% is needed to pass this test.

Verbs	Check Column (✓)
1. select	
2. know	
3. name	
4. comprehend	
5. compare	
6. digest	
7. order	
8. realize	
9. list	
10. perceive	

POST - TEST B

Directions: Listed below are five behavioral objectives. Please identify by placing a P, C, or A, over that portion of the objective which is performance, condition, or accuracy. The level of achievement for this test is 85%.

1. Given the necessary materials, the student will construct a collage representing the theme of Autumn to the Satisfaction of the instructor.

(continued next page)

Post-Test B (Continued)

2. Given ten problems of division in decimal numbers, the student will place the decimal point in the proper place in the dividend at 100% accuracy.

3. The student will list on a sheet of paper the five factors necessary to complete a proper bibliographical reference to be used in a research paper at 100% accuracy.

4. Given a list of twenty verbs, the student will select only those verbs which can be used in writing behavioral objectives within a period of five minutes.

5. Given 40 nouns in sentences, you will identify each common noun by underlining it once, and each proper noun by underlining it twice in 15 minutes with 90% accuracy.

POST-TEST C

DIRECTION: State orally to the instructor the three basic parts of the sound objective and describe orally to his satisfaction the basic fumdtion of each part.

LEARNING PACKET #6

"THE DEVELOPMENT OF BEHAVIORALLY-STATED OBJECTIVES"

BEHAVIORAL OBJECTIVES: DEVELOPMENT L. P. #6

CONCEPT- - - - - - - - - - - - - - -The development of Behaviorally-stated objectives.

PURPOSE- - - - - - - - - - - - - - -One of the prime considerations of any behavioral objective is that it be precise in its meaning and consistent in its interpretation. The objective must mean the same thing to teacher, student, or anyone else involved. In addition to the skill of defining component parts, the writer of behavioral objectives must also utilize terminology that will leave no doubt in the mind of the reader exactly what is expected as terminal behavior.

WILLINGBORO PUBLIC SCHOOLS L.P.#6

Learning Packet No. 6

PRE-TEST

NAME______________________________ DATE______________________

1. List the three basic characteristics of the sound behavioral objectives:

a.______________________

b.______________________

c.______________________

2. Write five terms which are proper action words that can be used with behavioral statements in constructing an objective:

a.______________________ d.______________________

b.______________________ e.______________________

c.______________________

3. List three common words used to signify educational goals in an effective sense:

a.______________________ b.______________________ c.______________________

4. In constructing a behavioral objective, the emphasis is always placed upon what the student______________________.

5. Identify the following parts of a behavioral objective in terms of CONDITIONS, PERFORMANCE, OR ACCURACY: (C, P, A)

__________a. The study will use a plane to square the board of proper dimensions.

__________b. the level of achievement being 80%

__________c. A paragraph will be written which includes a description of two characters of opposite personality.

__________d. Given a pair of calipers and a turned piece of wood dowel.

__________e. This being accomplished to the satisfaction of the student committee.

6. Which of the following statements fulfills all the requirements of a sound behavioral objective?

a. The student will understand the steps involved in operating the band saw correctly at an accuracy of 100%.
b. Given a radio with one deficient tube, the student will fix it.
c. The student will write a poem dealing with the concept of love.
d. Given a blueprint drawing of a bookshelf, the student will construct the bookshelf from 3/4" white pine to an efficient accepted by the instructor.

L.P.#6

BEHAVIORAL OBJECTIVE - - - - - - - -

Given a common learning concept used widely in education, the student will write the Performance, Conditions, and Accuracy factors for a Behavioral Objective to satisfy this concept. This is to be done to the satisfaction of the instructor.

SUB OBJECTIVES - - - - - - - - - -

1. Given five prepared objectives, the student will determine which factors are missing from the objective in terms of performance, conditions and accuracy. The degree of accuracy is 100%.
2. Given statements (5) of performance, the student will add factors of conditions and accuracy to make the statements complete Behavioral Objectives at 100% accuracy.

LEARNING ACTIVITIES - - - - - - - - - - - -

1. Individualized Instruction, op. cit., Segment #6
2. Preparing Instructional Objectives, Mager, Chap. 4,5
3. Faculty Course in Educ. Tech., Quinn, pp. 11-13
4. Reprint: "Performance Objectives" Esbensen, part I
5. "Developing Vocational Instruction" Mager & Beach, Chap I
6. Audio Cassette Tape - $6 "Developing Behavioral Objectives"
7. Overhead projector overlays - #6a, 6b, 6c - behavioral objectives
8. Videotape #6 "Developing Behavioral Objectives"
9. Vimcet Filmstrip "Selecting Appropriate Educational Objectives"
10. Worksheet on Behavioral Objectives
11. Worksheet on Behavioral Objectives
12. Plateau meeting, Group Interaction

POST-TEST - - - - - - - - - - - - - - -

(See instructor)

ENRICHMENT- - - - - - - - - - - - - - -

1. "Developing attitude toward Learning" - Mager Chap. 8
2. Vimcet Filmstrip: "Identifying Affective Objectives"

L.P. #6

WILLINGBORO PUBLIC SCHOOLS
Learning Packet #6
BEHAVIORAL OBJECTIVES
Work Sheet

NAME____ DATE________________________

Listed below are ten statements for your analysis and scrutiny. As you give your explicit attention to them, decide two things: (1) if it is stated in behavioral terms, circle yes. Otherwise, circle no; and (2) if you circle no, write on the line provided the item that is missing of the three essential items necessary for a good behavioral objective.

1. Given a list of novels of the eighteenth century that were written in England the student will recognize the work of Defoe at 90% accuracy.
   YES NO ______________________________

2. The student will hem a skirt of cotton material using a student model at exactly 24" from the floor the entire circumference of the skirt to the satisfaction of the instructor.
   YES NO ______________________________

3. Given a column of twenty fractions, the student will at 90% accuracy reduce all the fractions to their lowest terms or circle the fractions which cannot be reduced.
   YES NO ______________________________

4. Given a list of twenty presidents of the United States, the student will pick out those presidents that were Republican and those that were Democrats to the satisfaction of the instructor.
   YES NO ______________________________

5. Given the reference of a Byzantine mosiac, the student will draw an impression of a city skyline using this Byzantine type of expression to the satisfaction of the instructor.
   YES NO ______________________________

6. The student will divide a board into equal lengths using the proper tools in a time span of five minutes.
   YES NO ______________________________

7. Given an identified Mozart recording of music, the student will improvise in written form a short paragraph describing a scene to fit the mood of the music to the satisfaction of the instructor.
   YES NO ______________________________

8. The student will be able to differentiate between plants and animals at 85% accuracy by labeling slides with a P or an A using prepared slides and a microscope in the laboratory.
   YES NO ______________________________

9. Given two columns of poetry with tenlines in each column, the student will be able to match the proper lines by meter and rhyme.
   YES NO ______________________________

10. Given ten spanish idioms used frequently in discussion, the student will write the correct translation at 90% accuracy.
    YES NO ______________________________

NO WONDER OUR STUDENTS ARE CONFUSED!!!

L.P.# 6

WILLINGBORO PUBLIC SCHOOLS
Learning Packet #6
"BEHAVIORAL OBJECTIVES: RECOGNITION AND DEVELOPMENT"
Post Test Part A

NAME____ DATE ___ ____ ___

DIRECTIONS: Listed below are five prepared objectives. Determine which factors are missing from the objectives in terms of performance, conditions, and accuracy. The degree of accuracy is 100%. Write P, C, or A for the factor or factors missing in each objective.

1.______________Given a choice of definitions of verbs, choose verbs that are action verbs.

2.______________Given a list of pronouns, the student will know the use of pronouns to a degree of 100% accuracy.

3.______________The student will select the pronouns with 100% accuracy.

4.______________The student will be able to identify 9 verbs from 15 words.

5.______________Given a list of 15 verbs, the student must score at least 90%.

Post Test Part B

DIRECTIONS: Below is a list of 5 statements describing performance. Add the factors of conditions and accuracy to make the statements complete behavioral objectives at 100% accuracy.

1...................... select 5 action verbs from 15 words.

2...................... to orally name 5 states

3...................... to spell correctly 10 words

4...................... to repair the radio

5...................... to write a behavioral objective

WILLINGBORO PUBLIC SCHOOLS L.P.#6

Learning Packet #6

"Behavioral Objectives: Development"

Post Test Part C

NAME________________________________ DATE____________________

DIRECTIONS: Following is a concept that is used in education: The common and proper noun. Please write the performance, conditions and accuracy factors for a Behavioral Objective to cover this concept to the satisfaction of your instructor. If this concept does not satisfy you use your own.

LEARNING PACKET #7

"SAMPLE DISCIPLINARY OBJECTIVES"

SAMPLE DISCIPLINARY OBJECTIVES

L.P.#7

CONCEPT- - - - - - - - - - - - - -Sample Disciplinary Objectives

PURPOSE- - - - - - - - - - - - - The behavioral objective is a statement of instructional intent to support an accepted educational goal. The goal might well be the understanding, appreciation, or knowledge of some concept or skill, but objectives must be written in more explicit terms than those just mentioned. Once a particular concept or skill is identified as acceptable to a learning program, then the teacher will be able to use a recommended structure and particular terminology to successfully produce a satisfactory behavioral objective for any discipline.

PRE-TEST- - - - - - - - - - - - -

L.P.#7

BEHAVIORAL OBJECTIVE- - - - - - - - - - - -

The student will select an educational goal, choose a concept or skill in support of that goal, then write a sound Behavioral Objective to bring about the desired behavior change, the accuracy level being 100% in this exercise.

SUB OBJECTIVES- - - - - - - - - - - - -

1. The student will construct three sample Behavioral Objectives for the disciplinary area he works with which fulfill all the qualifications for a sound objective at 100% accuracy.
2. Given a concept in his subject area, the student will write a sound objective for the concept to the satisfaction of the instructor.

LEARNING ACTIVITIES- - - - - - - - - - - - -

1. Individual Instruction, op. cit., Segment #6
2. Preparing Instructional Obj. op. cit., Mager Chap 6
3. Developing Attitude Toward Learning, op. cit., Mager, Chap 6
4. Audio Cassette tape #6 "Sample Objectives"
5. Overhead Projector overlays, 6a, 6b, 6c, - Sample Objectives
6. Vimcet: "Defining Content for Objectives"
7. Workshop: Disciplinary Dept. Chairmen assistance
8. Group interaction plateau meeting

POST-TEST- - - - - - - - - - - - - - -

(See instructor

ENRICHMENT- - - - - - - - - - - - - - -

1. Vimcet: Developing Affective Objectives
2. Taxonomy of Educational Objectives - Bloom Chap. 2

WILLINGBORO PUBLIC SCHOOLS

SAMPLE DISCIPLINARY OBJECTIVES

Pre-Test and Post-Test on Learning Packet #7

NAME____ DATE________________

1. List three goals of education that are related to the area of your discipline or subject:

   ____

   ____

   ____

2. List a concept in support of each of the above goals that should be developed to bring about the desired behavioral outcomes:

   ____

   ____

   ____

3. Write a sound behavioral objective in support of each of the above cited items which fulfill the qualifications of a behaviorally-stated objective:

   ________a.

   ________b.

   ________c.

4. Determine the classification of the above objectives as to being Cognitive or Affective objectives by placing a C or an A in the space provided.

5. Given a disciplinary concept by a staff member, write an objective for that concept fulfilling all the qualifications of a sound objective in that area.

SELF EVALUATION

There are four steps associated with developing a sample behavioral objective in a given discipline. Name them:

It is said that there are advantages to having the teacher develop his or her own objectives rather than to deal in commercial products. Support or deny this statement.

List five valid concepts or skills that you feel are essential to your program and which you would like every student to leave your room having achieved mastery over.

a.________________________________

b.________________________________

c.________________________________

d.________________________

e.________________________

Write five sample objectives surrounding the above concepts that you have listed. Be sure to include Performance, Conditions, and Accuracy in your structure. Discuss these with the institute staff.

LEARNING PACKET #8

"VERBAL AND MOTOR PERFORMANCE OBJECTIVES"

L.P.[illegible]

VERBAL AND MOTOR OBJECTIVES

CONCEPT- - - - - - - - - - - - - - - Verbal and Motor Performance Objectives.

PURPOSE- - - - - - - - - - - - - - -As the teacher develops objectives for his particular disciplinary field, it will be noted that objectives fall into different areas according to the type of response that is initiated by the stimulus of the objective. The two areas are verbal and motor skills. It is extremely important that the teacher be aware of their purpose in formulating an objective as to whether they wish to stimulate a verbal or motor response from the student. In many cases, teachers will call for a verbal response in a motor skill area and visa-versa.

PRE-TEST- - - - - - - - - - - - - - -

WILLINGBORO PUBLIC SCHOOLS
Pre-Test Learning Packet
No. 8

L.P.#8

VERBAL AND MOTOR OBJECTIVES

NAME________________________________ DATE____________________________

1. List the three kinds of responses to verbal objectives and write a brief definition beside each kind.

____________ ____

____________ ____

____________ ____

2. From the verbs below, determine whether they would apply to verbal or motor skills by placing a "V" or an "M" in the space provided:

__________ a. define

__________ b. measure

__________ c. infer

__________ d. express

__________ e. demonstrate

__________ f. recite

__________ g. draw

__________ h. compare

__________ i. assemble

3. Name three disciplinary areas where the mastery of motor skills (hence motor skill objectives) would predominate:

____

____

____

4. Write one verbal objective (performance section only) for each of the three kinds of responses to verbal objectives. Identify each in the space provided to the left.

______ ____

______ ____

______ ____

5. Write a motor objective which fulfills all of the qualifications of a sound behaviorally-stated objective.

____

____

BEHAVIORAL OBJECTIVE- - - - - - - - - - - - - L.P.#8

Given a list of ten statements, the student will identify the verbal objectives and the motor skill objectives by placing a V or an M before each statement. The level or proficiency being 90%.

SUB OBJECTIVES- - - - - - - - - - - - - - -

1. Given a list of five intended outcomes to be measured, the student will differentiate the objectives to be used as verbal or motor for each by placing a V or an M beside the listing outcomes at 100% accuracy.
2. The student will list three ways in which a verbal activity can be used to satisfy an objective at 100% accuracy.

LEARNING ACTIVITIES- - - - - - - - - - - - -

1. Individualized Instruction, op, cit, Segment #8
2. Developing Vocational Instruction, Mager & Beach, Chap. 8
3. Audio Cassette tape - #8 Verbal & Motor Skill Objectives
4. Overhead Project overlay - 8a, 8b - Verbal & Motor Skills
5. Reprint: Determine Verbal and Motor Skills
6. Group interaction plateau meeting

POST TEST- - - - - - - - - - - - - - - - - -

(See instructor)

ENRICHMENT- - - - - - - - - - - - - - - - -

1. "Developing Attitude Toward Learning" Mager Chap. 6
2. "Taxonomy of Educational Objectives" Bloom pp 38-43

SELF EVALUATION L.P.#8

1. From the statements below, determine whether they are verbal or motor skills by placing a V or an M in the space provided:

   ____________a. The student will select the proper noun......

   ____________b. The student will write a paragraph.....

   ____________c. The student will shape the clay to a cup form.....

   ____________d. The student will select the proper tool.....

   ____________e. The student will recite a given poem using proper inflection....

2. Which of the following is incorrectly used?

   a. The student will list the five steps necessary for proper adjustment of the microscope......

   b. The student will write a composition on the subject "animals" using the Palmer method of handwriting......

   c. The student will bisect a 70° angle using a protractor......

3. Write a motor objective (performance) for using a compass to draw circles..............

4. Write a verbal objective for preparing an outline.....

WILLINGBORO PUBLIC SCHOOLS L.P.#8

Post-Test on L.P.#8

"VERBAL AND MOTOR OBJECTIVES"

NAME____________________________________ DATE_________________________

Part A - Sub-objective No. 1

Directions: On the blank lines alongside the 5 verbs below, indicate whether the verbs should apply to verbal or motor skill objectives by writing "V" for verbal and "M" for motor skill. An accuracy of 100% is necessary to pass this part of the test.

1. ________________________recite
2. ________________________demonstrate
3. ________________________define
4. ________________________compare
5. ________________________assemble

Part B - Sub-objective No. 2

Directions: List three ways, in writing, in which a verbal activity can be used to satisfy a verbal objective. An accuracy of 100% is necessary to pass this part of the test.

1.

2.

3.

Part C - Terminal Objective

Directions: Below is a list of ten statements, identify them by writing "V" for the verbal objectives and "M" for the motor skill objectives on the blank lines alongside the statements. An accuracy of 90% is necessary to pass this part of the test.

1.________The student will define in a written paragraph of not more than two hundred words....

2.________Given the proper tools, the student will build.....

3.________Given 3 visuals illustrating Greek, Roman and Egyptian styles of architecture, the student will identify each by writing the names of the styles on the blank lines....

4.________Given three slides, the phylum, the paramecium and the ameoba the student will draw....

5.________Given a radio and the proper tools the student will locate the two problems.....

6.________The student will demonstrate by voice inflection, giving a short speech of not more than two minutes.....

7.________The student will take a five minute timing on the Olympia typewriter.....

8.________The student will demonstrate his knowledge of the concept "Behavioral Objective" by writing a behavioral objective.....

9.________Given a list of objectives, you will select, with 100% accuracy....

10.________The student will write Ohms Law......

LEARNING PACKET #9

"CRITERIA TEST ITEMS"

CRITERIA TEST ITEMS L.P.#9

CONCEPT- - - - - - - - - - - - Criteria Test Items

PURPOSE- - - - - - - - - - - - It is extremely important in the learning program that measurement of achievement can occur at any point along the line. The testing of the student to establish his mastery over a given conceptual area is predicated upon determining his needs and areas of weakness, rather than to rate him in a graded system when we are dealing with individualized instruction. Valid and Reliable criteria test items form an integral part of pre and post tests to provide a continuing validation of learning.

PRE-TEST- - - - - - - - - - - -

POST-TEST ON LEARNING PACKET #3 [illegible]

"CRITERIA TEST ITEMS"

NAME________________________________ DATE____________

DIRECTIONS: Below are 3 columns: an Objectives column, a Class column, and a Test column. You are to read each objective and then classify it in the blank alongside it as a Verbal Objective (VO), Motor Objective (MO), or a Discrimination Objective (D). Above the test items indicate by writing "Good" or "Poor" whether the test items matches the performance stated in the objective. Write the criteria test items for 9, 10, and 11.

OBJECTIVES	CLASS	TEST ITEM
1. Will define "gross national produce"	____	Multiple choice - which of these definitions is correct?
2. Will operate calculator	____	Explain how to operate a calculator
3. Will write a paragraph containing a clearly identifiable topic sentence	____	Write a paragraph; identify the topic sentence
4. Will adjust a microscope	____	Adjust this microscope
5. Will write Ohm's Law	____	Write Ohm's Law
6. Will explain what a micrometer is used for	____	Use your micrometer to measure the following
7. Will operate a drill press	____	Explain operation of a drill press
8. Will explain the basic structure of the atomic nucleus	____	In this illustration, label the nucleus
9. Will explain function of a prism	____	______________________________
10. Will be able to identify paramecium	____	______________________________
11. Will explain difference between a civil war and a revolution	____	______________________________

EHAVIORAL OBJECTIVE - - - - - - - - - - - - - L.P. #9

Given a sample disciplinary concept or skill, the student will write three criteria test items, each of different format, to test mastery over the given concept or skill, the level of achievement being 100%

SUB OBJECTIVE - - - - - - - - - - - - -

1. The student will write one criteria test item for each of the categories of verbal selection, verbal discrimination, and motor performance skill at 100% accuracy.

LEARNING ACTIVITIES- - - - - - - - - - - - - - -

1. "Preparing Instructional Objectives," Mager, Chap. 6
2. "Developing Vocational Instruction," Mager, Beach, Chap. 7
3. "Faculty Course in Educational Technology,"Quinn, Chap.III
4. Individualized Instruction, Segment #9
5. Audio-Cassette Tape #9 - "Criterion Tests"
6. Vimcet Filmstrip - "Establishing Performance Standards"
7. Vimcet Filmstrip - "Analyzing Learning Outcomes"
8. Overhead Projector Overlays - #9a, 9b, Criteria Test Items
9. Test and Measurement Kit - E.T.S.
10. Making Your Own Test - E.T.S.
11. Group interaction plateau meeting.

POST TEST- - - - - - - - - - - - - - - - - - -

(See instructor)

ENRICHMENT - - - - - - - - - - - - - - - - - -

1. Vimcet: "Evaluation"
2. Developing Attitude Toward Learning, Mager, Chap. 9

LEARNING PACKET #9

"CRITERIA TEST ITEMS"

SELF - EVALUATION

1. The two most important aspects of sound criteria test items are the ______________________ and ______________________ of the items.

2. The construction of good criterion tests serves to improve the total learning procedure in a number of areas. Name three:

   a.

   b.

   c.

3. The basic design of the criterion test is subject to the influence of WHAT, WHY and HOW. Discuss the relationship of each to the development of the criterion test.

4. How would you test the student for mastery over the steps to be followed in developing a blueprint design?

5. How would you test the student for development of attitude of good citizenship?

POST TEST ON LEARNING PACKET #9 L.P.#9
"CRITERIA TEST ITEMS"

NAME______________________________ DATE______________

Following is a concept and three behavioral objectives. Read carefully the directions as to what you are to do.

To have successfully completed the test, you must have a score of 100%.

1. Write three criteria test items, each of different format for the following concept: "The common noun and proper noun." If you do not wish to use this concept, use one of your own.

    a.

    b.

    c.

2. Following are three behavioral objectives. Please read them carefully. After you read each one carefully, write a criteria test item.

    a. Objective - Write a short paragraph of not more than six lines containing a clearly identifiable topic sentence within a period of five minutes. Identify the topic sentence by underlining it.

        1. Criteria Test Item -

    b. Objective - Given a set of pictures on a sheet of paper which illustrates the hammer, saw, inside caliphers, outside caliphers, level, chisel, square, and hand drill, the student must identify by writing the name of each on the blank line immediately below the picture within five minutes and with 100% accuracy.

        1. Criteria Test Item -

    c. Objective - Given a properly functioning audiometer of any model, the student must be able to make the necessary adjustments and control settings within 10 minutes to enable the operator to conduct a standard hearing test.

        1. Criteria Test Item -

LEARNING PACKET #10

"ESBENSEN'S TAXONOMY"

TAXONOMY L.P. #10

CONCEPT- - - - - - - - - - - - - - - - - - Esbensen's Taxonomy

PURPOSE- - - - - - - - - - - - - - - - - - A traditional educational setting relied heavily upon pure recall for successful achievement. This type of rote learning provided little for the individual needs of the student. In addition, it stifled more complex intellectual responses based upon higher levels of the learning process. It is imperative that my objectives be continually upgraded to stimulate more sophisticated intellectual activity on the part of the student to be meaningful and realistic in a learning environment. Taxonomic application is a method of continual re-evaluation for education.

PRE-TEST- - - - - - - - - - - - - - -

Pre-Test on
Learning Packet #10

"TAXONOMY OF THE LEARNING PROCESS"

NAME______________________________________ DATE__________________

Part A

Directions: List below the six levels of Bloom's Taxonomy.

1.

2.

3.

4.

5.

6.

Part B

Directions: Construct in writing four behavioral objectives from a single concept, of your own choosing, one for each level of Esbensen's Taxonomy.

1.

2.

3.

4.

Part C L.P.#10

Directions: Listed below are five objectives. Label each in writing according to the proper taxonomic level using Esbensen's taxonomy.

1.__________________The student will write the names of the 13 colonies.

2.__________________Given the following emergency situation: You have received a telephone call at 5:00 p. m. today at your office that you must report to Florida by 11:00 p. m. to resolve a problem. The last plane leaves for Florida from Philadelphia at 6:30 p. m. Decide on a plan and then pert it within 20 minutes to get you to the plane within 70 minutes. Assume that you are married and must go home to pack a bag. This objective must be accomplished within 20 minutes and your plan must show that you will be able to catch your plane on time.

3.__________________ Given Ohm's Law, the student will explain it verbally to the instructor within 5 minutes with an accuracy of 100%.

4.__________________The student, given three sentences that need punctuation with semicolons, will punctuate them and write an explanation as to why he used semicolons........

5.__________________Given a list of 1500 students who have each selected seven different courses from a list of 125 courses, a course count, a list of 81 teachers, and a list of 50 classrooms, the student will create a master schedule to schedule each student with no more than five conflicts......

BEHAVIORAL OBJECTIVE- - - - - - - - - - - - - - -

Given Esbensen's Taxonomic Scale, the student will construct a Behavioral Objective for each level in writing at 100% accuracy.

SUB OBJECTIVES- - - - - - - - - - - - - - - - - - -

1. The student will list the six levels of Blooms Taxonomy in writing at an achievement level of 100% accuracy.
2. The student will construct four Behavioral Objectives from a single concept, one for each level of Esbensen's Taxonomy, the achievement level being 100%.
3. The student will label correctly each of five objectives as to the proper taxonomic category at 100% accuracy.

LEARNING ACTIVITIES- - - - - - - - - - - - - - - - -

1. Individualized Instruction, Segment #10
2. Working With Individualized Instruction, Esbensen, pp. 10-14
3. Taxonomy of Educational Objectives, Cognitive Domain, Bloom
4. Taxonomy of Educational Objectives, Affective Domain, Bloom, Appendix
5. Audio - Tape Cassette # 10 "Taxonomy"
6. Overhead Projector Overlays - #10a, 10b, - "Taxonomy"
7. Videotape #5 - "Taxonomy"
8. Vimcent - "Identifying Affective Objectives"
9. Group interaction plateau meeting.

POST-TEST- - - - - - - - - - - (See instructor)

ENRICHMENT- - - - - - - - - - - - - - - - - - - -

1. The New Social Studies, Fenton, pp. 10-114; 497-514
2. Realms of Meaning, Phenix, Chap. 21
3. The Analysis of Behavior, Holland and Skinner

SELF EVALUATIVE TEST - TAXONOMY OF EDUCATION

1. The lowest level of learning in our educational taxonomy is___________.

2. "The student will construct his own hypothesis to find the solution to . . ." Would be an objective on what level of the taxonomy?____________________

3. The word perception is a key word in relating to the level of the learning taxonomy known as____________________________________.

4. Selecting and using a particular formula to solve a math problem would be classified as the__________________level of the taxonomy.

5. Write an objective in Behavioral Terms for each of the following levels of the taxonomy:

   A Knowledge:

   B Comprehension:

   C Application:

   D Invention:

6. Justify in oral conversation with a colleague the need for a taxonomy of the learning processes as a method of classifying educational objectives and goals:

POST-TEST ON

LEARNING PACKET #10

"TAXONOMY OF THE LEARNING PROCESS"

NAME____ DATE______________________

Part A

Directions: List below the six levels of Bloom's Taxonomy.

1.

2.

3.

4.

5.

6.

Part B

Directions: Construct in writing four behavioral objectives from a single concept, of your own choosing, one for each level of Esbensen's Taxonomy.

1.

2.

3.

4.

STRUCTURE OF THE TASK ANALYSIS L.P.#11

CONCEPT- - - - - - - - - - - - - - -The structure of the Task Analysis

PURPOSE- - - - - - - - - - - - - - - The task analysis is a systems mechanism designed to help me take a long hard look at the present classroom program in light of what should be learned and how it should be learned. The Task Analysis will provide criteria in its structure which will enable me to develop a series of essential concepts that will formulate a realistic program of learning in a given discipline. Remember, if I have the concept, I can write the objective for it.

PRE-TEST- - - - - - - - - - - - - -

Pre-Test on
Learning Packet #11

"TASK ANALYSIS STRUCTURE"

NAME________________________________ DATE________________

Part A

Directions: List in writing each of the three essentials used to measure concepts in the structure of a task analysis.

1.

2.

3.

Part B

Directions: Read the concept for task analysis and construct a task analysis chart below and then categorize according to domain three essential concepts in your related discipline. You are to select a three-man peer group to evaluate your work.

BEHAVIORAL OBJECTIVE - - - - - - - - - - - - - - -

Given the concept of the task analysis, the student will construct a task analysis chart categorizing according to domain three essential concepts of his related discipline to the satisfaction of a 3-man peer group.

SUB OBJECTIVE- - - - - - - - - - - - - - - - - - -

1. The student will list the three essentials used to measure concepts in the structure of a task analysis at 100% accuracy.

PRE-TEST- -

LEARNING ACTIVITIES- - - - - - - - - - - - - - - -

1. "Task Analysis - structure" - Orientation program - Segment #11
2. "Developing Vocational Instruction" - Mager & Beach, Chap. 2,3
3. "Developing Programmed Instructional Materials" Espich & Williams, Chap. 3, 4
4. "Preparing Instruction Objectives" Mager, Chap. 5
5. Audio-Tape Cassette #11 - "Task Analysis - Structure"
6. Overhead Projector overlays - 11a, 11b - Task Analysis
7. Plateau group discussion - Dept. members
8. Worksheet - Task Analysis Structure

POST-TEST- - - - - - - - - - - - - - - - - - - -

(See Instructor)

ENRICHMENT- - - - - - - - - - - - - - - - - - -

1. "Developing Vocational Instruction" - Mager & Beach, Chap. 5, 10, 12
2. "Developing Attitude Toward Learning" - Mager, Chap. 6, 7, 8

SELF EVALUATION

The Educational Task Analysis attempts to survey the particular area under consideration to determine three items:

a.__________________________

b.__________________________

c.__________________________

Many pitfalls are avoided by the functional use of the task analysis. Name three of these:

a.__________________________

b.__________________________

c.__________________________

The conceptual domains of learning are divided into two areas:

a.___________________________________b.____________________________

There are three criteria that we use to measure concepts and skills in the educational task analysis. Name them:

a.__________________________

b.__________________________

c.__________________________

In earlier segments, you listed concepts for the development of disciplinary behavioral objectives. Apply these concepts to the pattern of the Task Analysis to see how they stand up under the suggested criteria. Discuss this with your group.

L.P.#11

Post-Test On

Learning Packet #11

"TASK ANALYSIS STRUCTURE"

NAME____DATE______________________

Part A

Directions: List in writing each of the three essentials used to measure concepts in the structure of a task analysis.

1.

2.

3.

Part B

Directions: Read the concept for task analysis and construct a task analysis chart below and then categorize according to domain three essential concepts in your related discipline. You are to select a three-man peer group to evaluate your work.

DEVELOPMENT OF A TASK ANALYSIS

L.P.#12

CONCEPT- - - - - - - - - - - - - - The development of a Task Analysis

PURPOSE- - - - - - - - - - - - - - The structure of the Task Analysis permits the teacher to list and evaluate the various concepts and skills that would be included in the program. Concepts are rated according to their relevance, frequency and difficulty. From this, we can establish what we want to teach, how we plan to teach it. and to what degree it should be taught. With the essential concepts developed from a valid task analysis, we are in a position to construct the terminal objectives of the program.

PRE-TEST- - - - - - - - - - - - -

WILLINGBORO PUBLIC SCHOOLS L.P.#12

Pre-Test - Learning Packet #12

"Task Analysis Development"

NAME____ DATE________________

Part A.

DIRECTIONS: List four steps in sequential order that are used to develop terminal objectives from a valif task analysis.

1.

2.

3.

4.

Part B.

DIRECTIONS: Write the three stages of development in the task analysis that are necessary to reach the level of interim objectives.

WILLINGBORO PUBLIC SCHOOLS L.P.#12

Pre-Test - Learning Packet #12

"Task Analysis Development

Part C.

NAME______________________________ DATE______________

DIRECTIONS: On the Task Analysis Chart below list five acceptable concepts and develop in writing a terminal objective for each concept.

TASK ANALYSIS CHART

CONCEPT	TAX.	V/M	TERMINAL OBJECTIVE

Save this portion of your test. You will need it to complete the terminal objective in Learning Packet #13.

L.P.#12

BEHAVIORAL OBJECTIVE- - - - - - - - - - - - - -

Given the structure of a Task Analysis, the student will list five acceptable concepts and develop in writing a terminal objective for each concept, the efficiency level being to the satisfaction of a five-man peer group for evaluation.

SUB OBJECTIVE- - - - - - - - - - - - - - -

1. The student will list four steps in sequential order that are used to develop terminal objectives from a valid Task Analysis the efficiency level being 100%.
2. The student will write the three stages of development in the Task Analysis that are necessary to reach the level of interim objectives at 100% accuracy.

PRE-TEST- - - - - - - - - (See Orientation Sheet #12)

LEARNING ACTIVITIES- - - - - - - - - - - - - -

1. "Task Analysis - Development" - Orientation Program, Segment 12
2. "Developing Programmed Instruction. Mat'ls", Epich & Williams, Chap 4.
3. "Developing Vocational Instruction", Mager & Beach, Chap, 4, 8
4. Audio-Tape cassette - #12 Developing Task Analysis
5. Overhead Projector Overlays #12a, 12b - Dev. Task Analysis
6. Worksheet - Developing Terminal Objectives
7. Plateau group discussion - Dept. Chairman
8. Self-evaluative test - Task Analysis
9. "Curriculum Construction Steps - Explanation of Model" - Owen Tait

POST-TEST- - - - - - - - (See instructor)

ENRICHMENT- - - - - - - - - - - - - - - - - -

1. "Developing Programmed Instructional Materials", Espich & Williams, Part II
2. "Developing Vocational Instructional Instruction", Mager & Beach, Chap. 12
3. "Realms of Meaning", Phenix, Chap. 24

CURRICULUM CONSTRUCTION STEPS

EXPLANATION OF MODEL

This model is designed to be followed during the initial, or "arm chair" point of curriculum construction. Modification, of course, will occur as a result of pre-testing, post-testing and pupil feedback.

1. First step is to identify a basic concept that the pupil should have in his intellectual armament.

2. The second step is to define behavioral objectives; which, when achieved will lead to concept formation on the student's part. Objectives, in this framework should be phrased to describe precisely what behavior the pupil is expected to exhibit as a result of his learning within the six levels of Bloom's Cognitive Domain." (NOTE: We are actually using Esbensen's four level of taxonomy in the Willingboro School District of New Jersey.)

3. In this model, the third step is test construction. It is included at this point, instead of at the end, for several reasons:

   a. It provides a natural flow of thought for the curriculum constructer. As he designs a behavioral objective it is very easy to take the next step and design a test item, problem or situation to ascertain whether or not the pupil has achieved the desired behavior.

   b. Knowing clearly what the objectives are and how they are to be measured, constructing learning experiences then becomes a job of logically implementing the pupil growth toward the goals.

   Some critics of this sequence of curriculum construction have said, "That's bad, you're teaching for the test!" This cliche makes sense when teaching is directed toward tests which have been constructed outside the curriculum. If behavioral goals are established and tests are designed to measure achievement of those goals then "teaching for the test" is not a criticism, it's a logical and correct thing to do.

4. The selection of learning activities again takes place within the framework of the "Taxonomy of Educational Objectives." This is a most difficult process for curriculum constructers who have not thought much beyond the "Knowledge & Comprehension" level. Once the attempt has been made to build learning experiences designed to elicit response at the levels of Application, Annalysis, Synthesis and Evaluation, the second attempt becomes easier. It also becomes more meaningful if the curriculum designer is a classroom teacher and she finds that learning experiences which get in to the "higher" levels generate much enthusiasm on the part of her class!

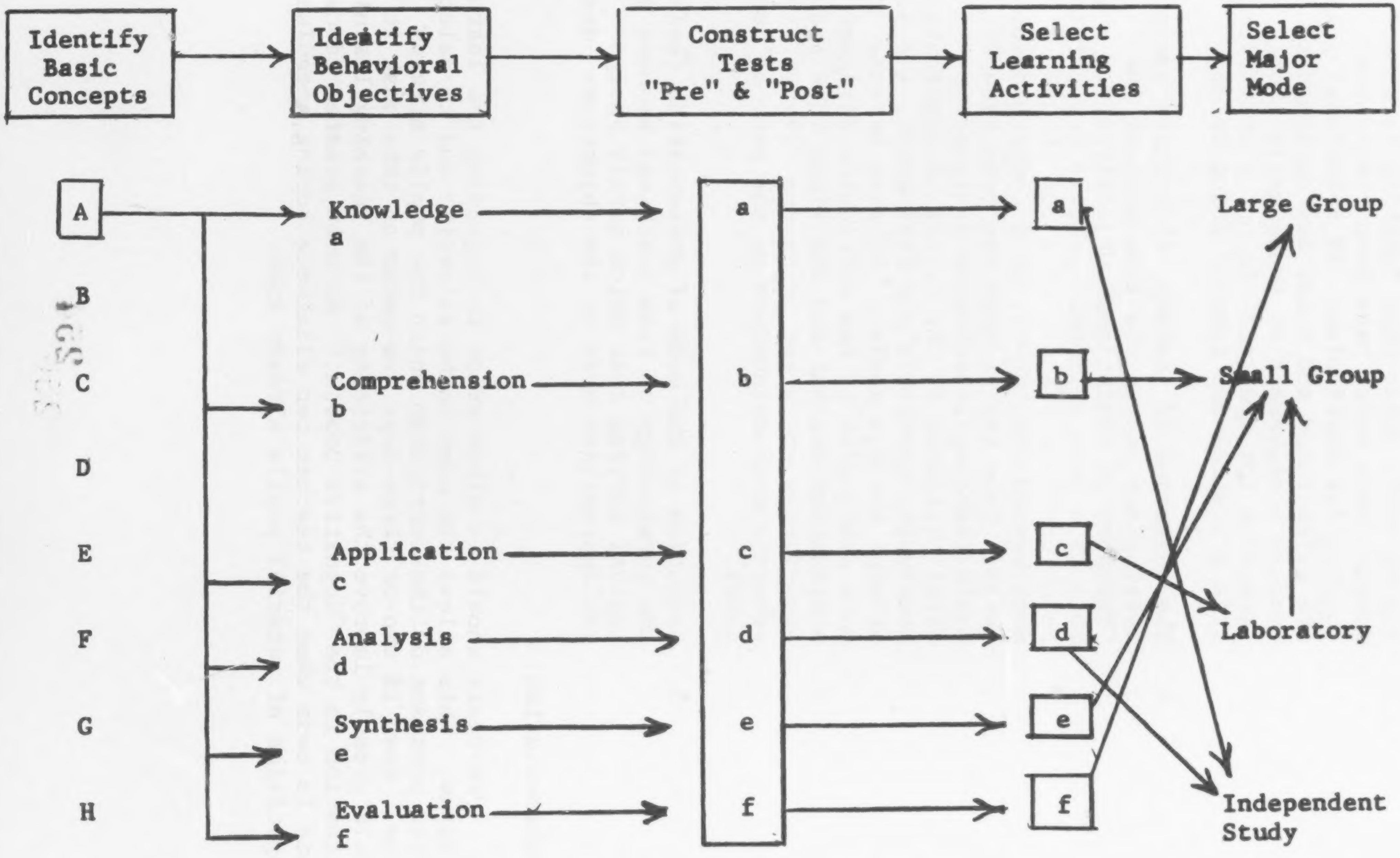
5. Selection of the mode of presentation (using the terminology of team teaching) becomes a logical sorting task which merely assigns the appropriate mode to the objectives desired.

Implementation:

Pre-tests should be given prior to beginning the learning program. This allows the user to be selective and to delete those portions of the curriculum which the pupils already know. Even if two or three days are taken on this task it would greatly improve the efficiency of the teaching-learning situation in the "Cognitive Domain." An even greater educational gain is made when the teacher can eliminate boring, needless repetition of material pupils already know.

CURRICULUM CONSTRUCTION STEPS

Flexible Scheduling - Team Teaching - Continuous Progress



A WALK THROUGH A SAMPLE CONCEPT

1. Basic Concept in Science - (from NSTA list)

   "One of the forms of energy is the motion of units of matter. Such motion is responsible for heat and temperature and for the states of matter, solid, liquid and gas."

2. Describing a behavioral objective in each area of Bloom.

   a. Knowledge - The student can define a molecule as a small particle of matter.

   b. Comprehension- The student can compare a molecule to a brick as a "building block."

   c. Application - The student could utilize his knowledge of heat and molecular motion to separate a mixture of sugar and water.

   d. Analysis - The student can write an analysis of the water cycle in terms of heat input and output at various phases of the cycle.

   e. Synthesis - The student can arrive inductively at a generality concerning the relationship between pressure and boiling point after doing an experiment in which boiling point is measured under 4 conditions of pressure.

   f. Evaluation - The student should be able to compare the Aristotelian concept of the composition of matter with the molecular theory and identify the consequences which would have occurred had scientists clung to the Aristotelian theory.

3. Test construction designed to measure precisely the stated objective.

a. Knowledge item - The smallest particle that can still be identified as water is called a ________________ of water.

b. Comprehension item - Write a short paragraph comparing a molecule to a brick.

c. Application - In the lab. Separate a mixture of water and sugar.

d. Analysis - Describe the water cycle in terms of heat output and input at the various phases.

e. Synthesis - In the lab. Heat water to the boiling point at atmospheric pressure, at 35" pressure at 24" pressure and at 20" pressure. Make a statement defining the relationship between pressure and boiling point.

f. Evaluation - Discuss in a short paper the merits of the molecular theory of matter as compared to the Aristotelian concept of matter as Earth, Air, Fire, and Water. What would have been the consequences of clinging to the Aristotelian theory?

4. Learning experience examples designed to teach the specific objectives.

for objective a - Read Chapter 2 "Basic Physical Science." View Filmstrip #21, "The Atom," or filmstrip #49, "Where Heat Comes From."

for objective b - Same as above.

for objective c - Distill water containing food coloring. Discuss results in small groups.

for objective d - Large group presentation on water cycle.

for objective e - Demonstration of lab techniques to achieve different pressures.

for objective f - Large group presentation on History of Molecular Theory of Matter.

5. Mode of presentation examples.

Independent Study - Reading, viewing filmstrips
Small group - Discussion of lab results. Demonstration of lab techniques.

Large group - Presentation of water cycle. History of molecular theory.

Laboratory - Distillation.

6. Pre-test constructed similar to post-test or both tests identical.

NOTE: This paper was written by Mr. Owen Tait, Assistant Superintendent of the Laguna Beach School District, Laguna Beach, California. Mr. Tait shared this paper with the Willingboro School District, Willingboro, New Jersey.

DEVELOPING TERMINAL OBJECTIVES
FROM THE TASK ANALYSIS

CONCEPT	TAX.	V/M	TERMINAL OBJECTIVE
the slide rule	A	V	The student will find the log of a three digit number using a slide rule at 100% accuracy.
a dress pattern	A	V/M	The student will cut and lay out a dress pattern from two yards of material to the predetermined standard of efficiency.
a poem	C	V	The student will construct a poem of eight lines following a rhyming pattern and using consistent meter count at 100% accuracy.
sight reading (music)	C	V	Given a single line of 30 musical notes equivalent to a 20 beat count in 4/4 time, the student will identify the notes orally in sequence within a ten second time span.
			Directions: Study the examples given above, then list some concepts and practive going through the task analysis

SELF EVALUATIVE TEST - TASK ANALYSIS

L.P.#12

1. Substantiate your present program or subject in terms of necessary learning concepts for the student who must take his place in society (or become a professional student).

2. Name three items that should be considered about every concept included in your learning program.

3. Name one concept that you have been teaching which fulfills the following:

   Concept (cognitive domain) ____________________

   Concept (affective domain) ____________________

   Verbal Skill ____________________

   Motor Skill ____________________

4. Name one concept that you would delete from your program as a result of this lesson.

5. Name one skill development area which interfaces with another subject.

WILLINGBORO PUBLIC SCHOOLS L.P.#12

Post-Test - Learning Packet #12

"Task Analysis Development"

NAME____ DATE_______________

Part. A.

DIRECTIONS: List four steps in sequential order that are used to develop terminal objectives from a valid analysis.

1.

2.

3.

4.

Part B.

DIRECTIONS: Write the three stages of development in the task analysis that are necessary to reach the level of interim objectives.

WILLINGBORO PUBLIC SCHOOLS L.P.#12

Post-Test - Learning Packet #12

"Task Analysis Development"

Part C.

NAME________________________ DATE________________

DIRECTIONS: On the Task Analysis Chart below, list five acceptable concepts and develop in writing a terminal objective for each concept.

TASK ANALYSIS CHART

CONCEPT	TAX.	V/M	TERMINAL OBJECTIVE

Save this portion of your test. You will need it to complete the terminal objective in Learning Packet #13.

TERMINAL OBJECTIVES

L.P.#13

CONCEPT- - - - - - - - - - - - - - - - Terminal Objectives

PURPOSE- - - - - - - - - - - - - - - - Terminal Objectives are constructed to bring about certain "intended behavior" on the part of the student that is relevant and meaningful for the development of the individual and his needs. A true assessment of the relevance of concepts to be covered is completed in a valid task analysis. Once the task analysis is completed, the terminal objectives can be determined and written as performance objectives in instructional packages. Interim objectives will also be developed in support of the terminal objectives.

PRE-TEST- - - - - - - - - - - - - - -

Pre-Test on Learning Packet #13

"TERMINAL OBJECTIVES"

NAME____ DATE__________________

DIRECTIONS: Using Part C of Post-Test No. 12 write the necessary interim objectives in support of each of the five behavioral objectives. This test is to be evaluated by and to the satisfaction of your instructor.

BEHAVIORAL OBJECTIVE- - - - - - - - - - - - - - -

Using the five terminal objectives that you developed on the post-test in Learning Packet #12, write the necessary interim objectives to support each of the five terminal objectives to the satisfaction of your Department Chairman.

PRE-TEST- -

LEARNING ACTIVITIES- - - - - - - - - - - - - - - -

1. "Terminal and Interim Objectives" - Orientation Program, Segment #13
2. "Developing Attitude Toward Learning", Mager
3. "Developing Vocational Instruction", Mager & Beach
4. Vimcet; "Selecting Appropriate Objectives", Mager
5. Preparing Instructional Objectives, Mager
6. Overhead Projector overlays 13a, 13b, "Terminal Objectives"
7. Audio Cassette Tape #13 - "Terminal & Interim Objectives"
8. "Faculty Course in Educ. Tech." - Quinn
9. "Working with Individualized Instruction", Esbensen
10. Plateau Group - Terminal Objectives - Department Chairmen

POST-TEST- - - - - - - - - - - - - - -

ENRICHMENT- - - - - - - - - - - - - - -

1. "Realms of Meaning" Phenix
2. Vimcet: "Developing Affective Objectives"

L.P.#13

EVALUATION

Given five statements, the student will identify the terminal objectives and interim objectives by placing a T or an I in the proper space at an accuracy of 100%.

1.______________Given the necessary materials, the student will construct a college representing the theme of Autumn to the Satisfaction of the instructor.

2.______________Given ten problems of division in decimal numbers, the student will place the decimal point in the proper place in the dividend at 100% accuracy.

3.______________The student will list the five factors necessary to complete a proper bibliographical reference to be used in a research paper at 100% accuracy.

4.______________The student will construct a scale drawing of a set of wooden bookends at ½-1" scale using three views of front, side and top, successful achievement being at the satisfaction of the instructor.

5.______________The student will conjugate the verb "to be" in Spanish in person, case, and singular/plural at 100% accuracy.

Given the terminal objective - "The student will complete a research paper on a selected topic not to exceed five pages, double spaced typing, with proper documentation and format, to present orally to the satisfaction of the instructor". Write five interim objectives that would be necessary to support the stated terminal objective at 100% accuracy.

1.

2.

3.

4.

5.

Post-Test on Learning Packet #13

"TERMINAL OBJECTIVES"

NAME____ DATE____________________

DIRECTIONS: Using Part C of Post-Test No. 12, write the necessary interim objectives in support of each of the five behavioral objectives. This test is to be evaluated by and to the satisfaction of your Department Chairman.

LEARNING PACKET #14

"THE CONSTRUCTION OF A LEARNING PACKAGE"

LEARNING PACKAGE: RESOURCES L.P.#14

CONCEPT- - - - - - - - - - - - - - - The construction of a Learning Package.

PURPOSE- - - - - - - - - - - - - - - As a vehicle for individualization, the instructional learning package provides varied learning processes for student selection, tracking, branching, budgeting, and enrichment. Built around sound objectives, the learning package speaks to the student and allows the student to engage in meaningful learning experiences in which he has a stake. The package provides motivation by its structure and initiation by its appeal. It precludes involvement on the part of the student and is a sharing of learning rather than spoonfeeding.

PRE-TEST- - - - - - - - - - - - -

L.P.#14

Pre-Test on Learning Packet #14

"THE LEARNING PACKAGE RESOURCES"

NAME____ DATE______________

Part A.

DIRECTIONS: Using a meaningful and relevant concept and a behavioral objective, develop or construct the following resources or learning activities for a learning packet.

1. an overlay
2. an audio tape

These resources must be done to the satisfaction of your instructor.

Pre-Test on Learning Packet #14

Part B

DIRECTIONS: Obtain from your instructor an essential concept derived from a valid task analysis. Construct a learning packet on the concept you received, utilizing the following format:

1. Concept
2. Purpose
3. Behavioral Objective
4. Pre-Test
5. Learning activities
6. Post-Test
7. Enrichment

L.P.#14

BEHAVIORAL OBJECTIVE- - - - - - - - - - - - - - - -

Given an essential concept by your Department Chairman derived from a valid task analysis in your disciplinary area, the student will construct a learning package utilizing the suggested format to the satisfaction of the members of your department.

SUB OBJECTIVES- - - - - - - - - - - - - - - - -

Given the proper materials and hardware by the Department Chairman, the student will construct the following resources for a learning package to the satisfaction of the Department Chairman.

1. an overlay
2. an audio tape

PRE-TEST- - - - - - - - - - - - - - - - - - -

LEARNING ACTIVITIES- - - - - - - - - - - - - - -

1. "Learning Package - Resources" - Orientation Program, Segment #14
2. "Faculty Course in Educ. Tec.", Quinn Chap. VII
3. "Working with Individualized Instruction", Esbensen, Chap II, III, IV
4. A Learning Packet on How to Make a Learning Packet - Gladhorn (Reprint)
5. Audio Cassette Tape #14 - Learning Package
6. Overhead Projector Overlay 14a, 14b, - "L.P."
7. Plateau Group Interaction
8. Dept. Conference - Instructor

POST-TEST - - - - - - - - - - - - - - - - - (See Instructor)

ENRICHMENT- - - - - - - - - - - - - - -

1. Student develop his own L.P. with all components.
2. Review sample L.P.'s on display.
3. Develop a graphic chart.
4. Develop a video-tape or photographic slide series format.

L.P.#14

SELF EVALUATION

For a simple behavioral objective in your discipline, write a series of learning activities or resources which will provide several routes of learning for the student to select at his own discretion.

Among your resources, include the following:

At least one reading reference for the high ability

At least one reading reference for the low ability

Two or more reading references supplemental to the concept

Two or more visual resources

One or more audio resources

Two or more verbal activities

At least three activities that every student can use.

LEARNING ACTIVITIES

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

ENRICHMENT: Think about the student who wishes to pursue a particular concept into greater depth on his own volition. Don't shut him out. Either provide depth study opportunity (quest) or let the student develop additional objectives to pursue himself with your approval.

Post-Test on Learning Packet #14

"THE LEARNING PACKAGE RESOURCES"

NAME____ DATE____________________

Part A.

DIRECTIONS: Using a meaningful and relevant concept and a behavioral objective, develop or construct the following resources or learning activities for a learning package.

1. an overlay
2. an audio tape

These resources must be done to the satisfaction of your Department Chairman.

Post-Test on Learning Packet #14

Part B.

DIRECTIONS: Obtain from your Department Chairman an essential concept derived from a valid task analysis. Construct a learning packet on the concept you received, utilizing the following format:

1. Concept
2. Purpose
3. Behavioral Objective
4. Pre-Test
5. Learning Activities
6. Post-Test
7. Enrichment

APPENDIX 7

NAME: ____________________

DISTRICT: ____________________

ES'70 WORKSHOP

1. Has this workshop assisted you in clarifying your position as a change agent?

   ☐ Yes ☐ No

2. Do you feel that the workshop has helped you to recognize change as opposed to rearrangement.

   ☐ Yes ☐ No

3. Briefly comment on which aspect was most helpful and why.

4. Briefly comment on which aspect was least helpful and why.

E.S.'70 WORKSHOP
SANTA FE, N.M.

EVALUATION

QUESTION #1.

How this workshop assisted you in clarifying your position as a change agent?

YES	NO
10	0

QUESTION #2.

Do you feel that the workshop has helped you to recognize change as opposed to rearrangement?

YES	NO
10	0

QUESTION #3.

Briefly comment on which aspect was most helpful and why.

Having teachers and administrators explain the changes which they have initiated was helpful.

I really had looked forward to the two days workshop in the writing of behavioral objectives. As a teacher, I needed this practical aspect for the classroom. However, I realize the schedule had to be changed.

Group session - Willingboro - A good summary of the Willingboro set up was given. Participants played roles well. Relevant questions & problems were brought up and a logical plan of attack suggested.

I especially benefitted from the session on Willingboro's individualized in-service program as that is what we're working on at present.

I found the morning session (March 25, 1970) psychodrama to be most helpful. The interchange of ideas concerning change as opposed to rearrangement that so often is the case.

I particularly enjoyed the Vice-Principal from Willingboro and his explanation of the Willingboro plan for change. Some of his ideas I can use.

E.S.'70 WORKSHOP
SANTA FE, N.M.

EVALUATION

QUESTION #3. cont'd.

I enjoyed the comments by Dr. Nikolai regarding the role of the change agent and the change to play a different role in order to stimulate reactions. I especially liked the way that everyone was involved in the group discussions.

The most helpful session for me was the feedback session on Thursday morning. Of course, I realize that it depended upon all that went before.

Dr. Nikolai's session. (5pts.).

Summary session on Thursday A.M. with Dr. Brainard.

Varied role playing of change agents to meet same goals. Opened up her vistas of thought and process for same change agent in different situations.

#2 above more helpful. #1 above has been clear for some time. I especially enjoyed the group sessions with the "practitioners".

The whole agenda Tom, Could I have a set of the roles? I would like to use them in Baltimore.

QUESTION #4.

Briefly comment on which aspect was least helpful and why.

I think the role playing was least helpful. The people present were adequately resourceful to interpret change without this instrument of communication. Further, that we need change was evident before we arrived in Santa Fe; some of the role playing was geared to whether change was needed or not. I found this a little unnecessary. Fortunately, in our group, we abandoned roles many times.

E.S.'70 WORKSHOP
SANTA FE, N.M.

EVALUATION

QUESTION #4 cont'd.

My group session with the Philadelphia People. The majority of the time was spent discussing their Philadelphia problem. Little time was spent discussing solutions, plan of attack, alternatives.

The role play was a good idea but people were "out of role" more than "in".

The afternoon sessions were not as helpful. However the dialogue with Dr. Nicolai was enjoyable. Tom, I think your plan was good and it was "on target". The execution of the plan depended on the persons involved and sometimes went astray (I admit that I was one of the persons involved). May I summarize by simply saying "GOOD SHOW", Mr. Dietz.

The session with the teachers from Philadelphia, did not develop for me -- probably because it was the third in a series and late in the day.

Session with Philadelphia, Pa., too much defense of structure.

Group leaders not clear as to their role as a member of the different groups. A great deal of time spent on defining this role for leaders as each group meets.

Extent of time placed on change agent status. Very reluctant to previous meetings. Good conference in overall.

APPENDIX 8

E. S. 70 WORKSHOP
AMERICAN INSTITUTE FOR INDIAN ARTS
Santa Fe, New Mexico
March 25 and 26, 1970

Director: Mr. Thomas Dietz
E.S. 70 Coordinator
Willingboro School District
Willingboro, New Jersey

PARTICIPANT EVALUATION OF WORKSHOP

Directions: Place a check mark in the box which best describes your evaluation of the statement. Use the space following each statement and rating scale to write any comments and suggestions.

1. We engaged in two kinds of activity groups. Please rate the effectiveness of each.

	Highly effective	Moderately effective	Relatively ineffective	Poor
A. Role playing group -	☐	☐	☐	☐
B. Summarizing Panel -	☐	☐	☐	☐

Comments and suggestions:

2. There were four consultants available for the three groups. Please rate each consultant's effectiveness as a group leader in the role playing group.

	Highly effective	Moderately effective	Relatively ineffective	Poor
A. Dr. Nickolai	☐	☐	☐	☐
B. Doreen Rhode (Philadelphia)	☐	☐	☐	☐
C. David Shore (Philadelphia)	☐	☐	☐	☐
D. Joseph O'Donnell (Willingboro)	☐	☐	☐	☐

Comments and suggestions:

3. Some materials were left for your reference after the workshop. Please rate their usefulness to you.

☐ Highly useful ☐ Moderately useful

☐ Relatively nonuseful ☐ Poor

Comments and suggestions:

4. How well was the workshop planned?

☐ Well planned ☐ Moderately well planned

☐ Poorly planned

Comments and suggestions:

5. The stated purpose for the workshop was to prepare three methods for the implementation of change within your district. How important was this purpose in giving you direction for implementing change?

☐ Very important ☐ Moderately important ☐ Not important

Comments and suggestions:

6. How effective was the workshop in helping you to identify the agents for change in your district?

☐ Highly effective ☐ Moderately effective

☐ Relatively ineffective ☐ Poor

Comments and suggestions:

7. How effective was the workshop in helping you to identify the roles and activities for change agents?

☐ Highly effective ☐ Moderately effective

☐ Relatively ineffective ☐ Poor

Comments and suggestions:

8. To what degree was the workshop effective in helping you to identify and support the E. S. 70 Coordinator's place in a district's hierarchy?

☐ Highly effective ☐ Moderately effective

☐ Relatively ineffective ☐ Poor

Comments and suggestions:

9. How effective was the workshop in giving you ideas to help you develop plans for fostering change in your district?

☐ Highly effective ☐ Moderately effective

☐ Relatively ineffective ☐ Poor

Comments and suggestions:

10. Each of you received a set of packets which is an in-service program to teach teachers how to write single-concept learning packets focusing on behavioral objectives. Please rate their usefulness to you.

☐ Highly useful ☐ Moderately useful

☐ Relatively nonuseful ☐ Poor

Comments and suggestions:

11. Do you plan on using the above in-service program to teach teachers how to write single-concept learning packets?

☐ Yes ☐ No ☐ Maybe

Comments and suggestions:

12. Do you believe this particular kind of workshop presented on a quarterly or semi-annual basis, relating to pertinent problems, would be valuable to the E.S. Coordinators?

☐ Highly valuable ☐ Moderately valuable

☐ Relatively non-valuable ☐ Not valuable

Comments and suggestions:

TABULATION OF PARTICIPANTS EVALUATION OF WORKSHOP

E. S. 70 WORKSHOP

AMERICAN INSTITUTE FOR INDIAN ARTS
Santa Fe, New Mexico
March 25 and 26, 1970

1. We engaged in two kinds of activity groups. Please rate the effectiveness of each.

		Highly effective	Moderately effective	Relatively ineffective	Poor
A.	Role playing group -	____	____	____	____
B.	Summarizing Panel -	____	____	____	____

Answers:

	High. Eff.	Mod. Eff.	Rel. Ineff.	Poor	Totals
1.	6	13	3	0	22
2.	4	13	2	0	19

COMMENTS AND SUGGESTIONS:

a. Role playing "lost its luster" after one shot.
b. Role playing seemed to lose its novelty effect after doing it once.
c. After the first session, my group did not play roles, but we learned a great deal by asking questions that relate to our real life situations. This was more helpful to me.
d. Effectiveness - to what criteria?
e. Creighton is a "lousy" role player. This type of activity bothers me - people keep reverting to "self" and I keep trying to determine when a person is "self" and when he is "role" and I lost effectiveness in the process.
f. Not enough time to prepare for summarizing panel.
g. Make certain that members have read their homework.
h. Include time for discussion covering sub group report.
i. Small group varied in effectiveness according to the indivdual participants and the time of day. Feel some members abandoned the role playing, and seized on this as an opportunity to find the "chink in the armor". Better to attempt more positive direction than negative.

2. There were four consultants available for the three groups. Please rate each consultant's effectiveness as a group leader in the role playing group.

	Highly effective	Moderately effective	relatively ineffective	Poor
A. Dr. Nickolai	_____	_____	_____	_____
B. Doreen Rhode (Philadelphia)	_____	_____	_____	_____
C. David Shore (Philadelphia)	_____	_____	_____	_____
D. Joseph O'Donnell (Willingboro)	_____	_____	_____	_____

Answers:

	High. Eff.	Mod. Eff.	Rel. Ineff.	Poor	Totals
1.	15	3	0	0	18
2.	5	8	4	2	19
3.	5	10	3	1	19
4.	6	13	1	0	20

COMMENTS AND SUGGESTIONS:

a. Commend Joe O'Donnell in his enthusiasm for changing educational environment in his school.
b. Consultants simply not of equal merit. They described, not consulted.
c. Effectiveness - what criteria?
d. Doreen Rhode has a lot to learn about the public school business.
e. Felt B and C not fully committed to the concept of individualized instruction.

3. Some materials were left for your reference after the workshop. Please rate their usefulness to you.

_______ Highly useful _______ Moderately useful

_______ Relatively nonuseful _______ Poor

Answers:

	High. Use	Mod. Use	Rel. Nonuse.	Poor	Totals
1.	5	14	2	0	21

COMMENTS AND SUGGESTIONS

Usefulness of reference materials.

a. T.H. learning packages were very good.
b. Usefulness - how?
c. Role of teacher as different from administrator made a big difference.

4. **How well was the workshop planned?**

_____ **Well planned** _____ **Moderately well planned**

_____ **Poorly planned**

Answers:

	Well Plan.	Mod. Well Plan.	Poorly Plan.	Totals
1.	17	5	1	23

COMMENTS AND SUGGESTIONS:

a. **Well planned - for what?**
b. **Diversity of local responsibility made planning difficult.**
c. **Very shoddy planning. No real effort to respond to stated objective. Weak assistance by consultants. Could have been an effective experience - in retrospect, it wasn't.**
d. **Appeared that the 2 days experience was well arranged. At the end people seemed to be fading. Cannot judge total experience.**

5. **The stated purpose for the workshop was to prepare three methods for the implementation of change within your district. How important was this purpose in giving you direction for the implementing change?**

_____ **Very important** _____ **Moderately important**

_____ **Not important**

Answers:

	Very Imp.	Mod. Imp.	Not Imp.	Totals
1.	4	14	5	23

COMMENTS AND SUGGESTIONS:

a. **Change strategies have to be complicated and precise to move through the monolithic administrative structure of moderately sized district.**
b. **Type of change?**
c. **Administration directed as it should be, no significance.**
d. **They did not describe 3 methods for implementing change; they described their innovations.**
e. **I was able to coordinate a workshop within my community.**

6. How effective was the workshop in helping you to identify the agents for change in your district?

________ Highly effective ________ Moderately effective

________ Relatively ineffective ________ Poor

Answers:

	High Eff.	Mod. Eff.	Rel. Ineff.	Poor	Totals
1.	10	6	7	0	23

COMMENTS AND SUGGESTIONS:

a. We use a participating team effort which has many bugs to be worked out, so it is more difficult to see clear cut effectiveness.
b. Thought I could identify them before.

7. How effective was the workshop in helping you to identify the roles and activities for change agents?

________ Highly effective ________ Moderately effective

________ Relatively ineffective ________ Poor

Answers:

	High Eff.	Mod. Eff.	Rel. Ineff.	Poor	Totals
1.	9	10	4	0	23

COMMENT AND SUGGESTIONS:

a. Somewhat of a review.
b. Dr. Nickolai was particularly helpful.
c. Same as 6b.

8. To what degree was the workshop effective in helping you to identify and support the E. S. 70 Coordinator's place in a district's hierarchy?

________ Highly effective ________ Moderately effective

________ Relatively ineffective ________ Poor

Answers:

High Eff.	Mod. Eff.	Rel..Ineff.	Poor	Totals
6	13	4	0	23

COMMENTS AND SUGGESTIONS:

a. Doesn't necessarily happen that way.
b. Somewhat of a review.
c. I already had pretty well formulated ideas on this.
d. Interesting to see how the concept of this position varies from place to place. I tended to see all ES '70 coordinators as doing the same thing, but I see the role as varying with the district's needs.

9. How effective was the workshop in giving you ideas to help you develop plans for fostering change in your district?

______ Highly effective ______ Moderately effective

______ Relatively ineffective ______ Poor

Answers:

High. Eff.	Mod. Eff.	Rel. Ineff.	Poor	Totals
9	9	3	1	22

COMMENTS AND SUGGESTIONS:

a. Already had these ideas.
b. Only Nickolai, others were a waste of time.
c. The interaction among the various participants was very good.
d. Best one so far. Believe this is the true role of the coordinator.

10. Each of you received a set of packets which is an in-service program to teach teachers how to write single concept learning packets focusing on behavioral objectives. Please rate their usefulness to you.

______ Highly useful ______ Moderately useful

______ Relatively nonuseful ______ Poor

Answers:

Highly Use.	Mod. Use.	Rel. Nonuseful	Poor	Totals
8	7	4	0	19

COMMENTS AND SUGGESTIONS:

a. Much of our work is built around 2 on-going projects, which have a definite "blue print for action".
b. There are better materials available.
c. Did not receive.

11. Do you plan on using the above in-service program to teach teachers how to write single-concept learning packets?

______ Yes ______ No ______ Maybe

Answers:

Yes	No	Maybe	Prob. Not	Totals
10	5	6	1	22

COMMENTS AND SUGGESTIONS:

a. There are better materials available.
b. If we had the materials.
c. We hope to build this into our school day programs next year if we aren't blocked by the teachers during professional negotiations.
d. We have our own developed, but can see some changes we will make on the redesign of our own material.
e. Parts of these packets have already been used.
f. I use them with teachers and kids.

12. Do you believe this particular kind of workshop presented on a quarterly or semi-annual basis, relating to pertinent problems, would be valuable to the E.S. Coordinators?

______ Highly valuable ______ Moderately valuable

______ Relatively non-valuable ____ Not valuable

Answers:

High. Val.	Mod. Val.	Rel. Non-Val.	Not Val.	Totals
14	7	0	0	21

COMMENTS AND SUGGESTIONS:

a. A workshop with more advance reading and participant preparation would be valuable. Design the program on specific behavorial objectives. Practice what we preach.
b. If things are moving in the districts, yes. Perhaps should be called for as need arises. Expense and people can lose their enthusiasm in an overdose of workshops.
c. Only if leaders of sessions were of better quality. Two of the three sub-sessions were merely show-and-tell.

TOTALS	133	150	49	5

PARTICIPANT EVALUATION OF SANTA FE WORKSHOP

1.		High. Eff.	Mod. Eff.	Rel. Ineff.	Poor	Totals
	A.	6	13	3	0	22
	B.	4	13	2	0	19
2.		High Eff.	Mod. Eff.	Rel. Ineff.	Poor	
	A.	15	3	0	0	18
	B.	5	8	4	2	19
	C.	5	10	3	1	19
	D.	6	13	1	0	20
3.		High. Eff.	Mod. Use.	Rel. Nonuse.	Poor	
		5	14	2	0	21
4.		Well Plan.	Mod. Well Plan.	Poorly Plan.		
		17	5	1		23
5.		Very Imp.	Mod. Imp.	Not Imp.		
		4	14	5		23
6.		High Eff.	Mod. Eff.	Rel. Ineff.	Poor	
		10	6	7	0	23
7.		High Eff.	Mod. Eff.	Rel. Ineff.	Poor	
		9	10	4	0	23
8.		High Eff.	Mod. Eff.	Rel. Ineff.	Poor	
		6	13	4	0	23
9.		High Eff.	Mod. Eff.	Rel. Ineff.	Poor	
		9	9	3	1	22
10.		High Use	Mod. Use.	Rel. Nonuse	Poor	
		8	7	4	0	19
11.		Yes	No	Maybe	Prob. Not	
		10	5	6	1	22
12.		High Val.	Mod. Val.	Rel. Non-Val.	Not. Val	
		14	7	0	0	21
TOTALS:		133	150	49	5	

SUMMARY

FINAL REPORT

The original intent of these institutes was to implement the basic tenets of the ES'70 Network through the use of individualized learning packages which would assist in the development of a new secondary curriculum utilizing behavioral objectives.

The first institute carried out during the summer of 1969 was actually a training program during which time the participants went through a series of twelve packages to get a strong foundation in the writing of behavioral objectives with a particular leaning toward specific subject-matter areas including the vocations. The basic premise was that curriculum change was necessary, had been established, and only the mechanics of the writing of the behavioral objectives was necessary to implement the program.

After the participants had returned to their districts the feedback indicated that the mere skill of writing behavioral objectives had little to do with implementing change. The climate for change had not been established. Therefore, the second institute was devised to assist the ES'70 Coordinators and other change agents in learning to implement the use of the learning packages.

The activities of change agents were investigated, the status of power to achieve change were discussed, and the vehicles of change were illustrated.

The efforts of the two institutes, although effective in the immediate, i.e. the first institute did teach the participants to write behavioral objectives, and the second institute did show how behavioral objectives could be implemented, the process of change was extremely slow although diversified methods of change were attempted.

As in the history of many organizational and curriculum changes most of the changes occurring due to the efforts of the institutes affected directly all too few of the hundreds of teachers involved in the ES'70 network.

It would seem that the basic problem lies in the lack of sufficient effort on the part of the institutes to approach the behavior of teachers within the classroom. The new methods of exchanged old materials for new, created some acceptance on the part of pupils and teachers for the new methodology, but did little to change teachers perception, and pupils perception of this their role in the classroom.

Much more work must be done by the behavioral scientist in this area. It has been indicated that the mechanical reorganization of the school personnel structure, time structure, building structure must come before behavior changes and the institution of new curriculum can be approached with any assurance of more than limited success.